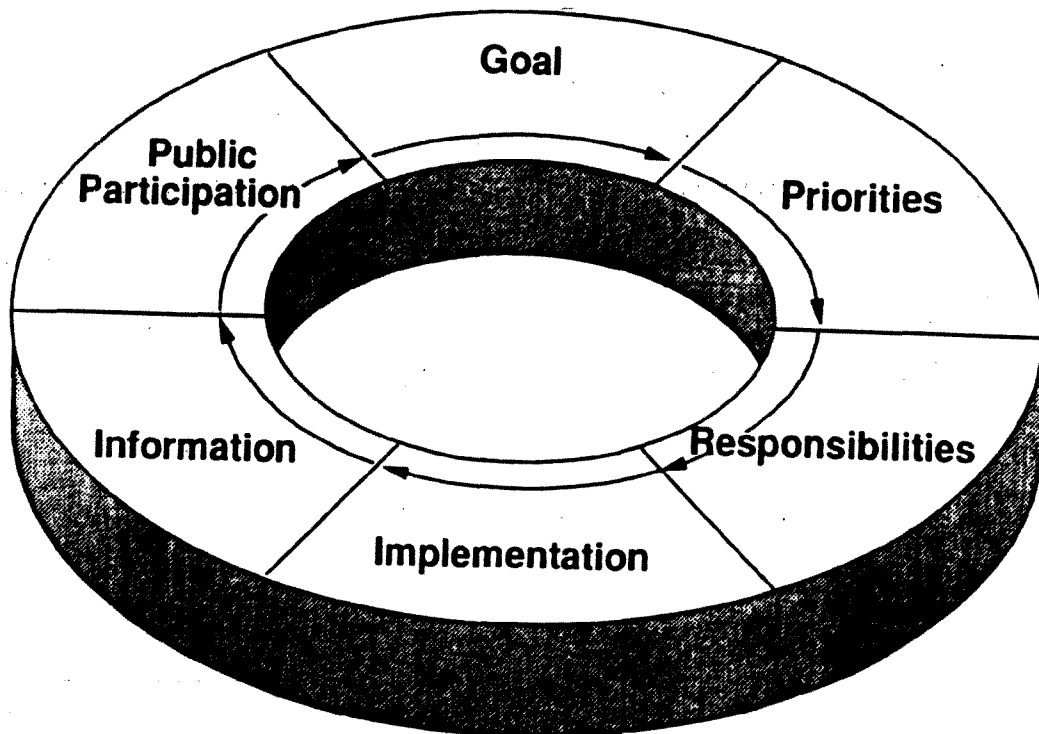


**"IMPLEMENTING EPA's GROUND WATER PROTECTION STRATEGY  
FOR THE 1990s"**

**DRAFT COMPREHENSIVE STATE GROUND WATER  
PROTECTION PROGRAM GUIDANCE**

**SPRING 1992**



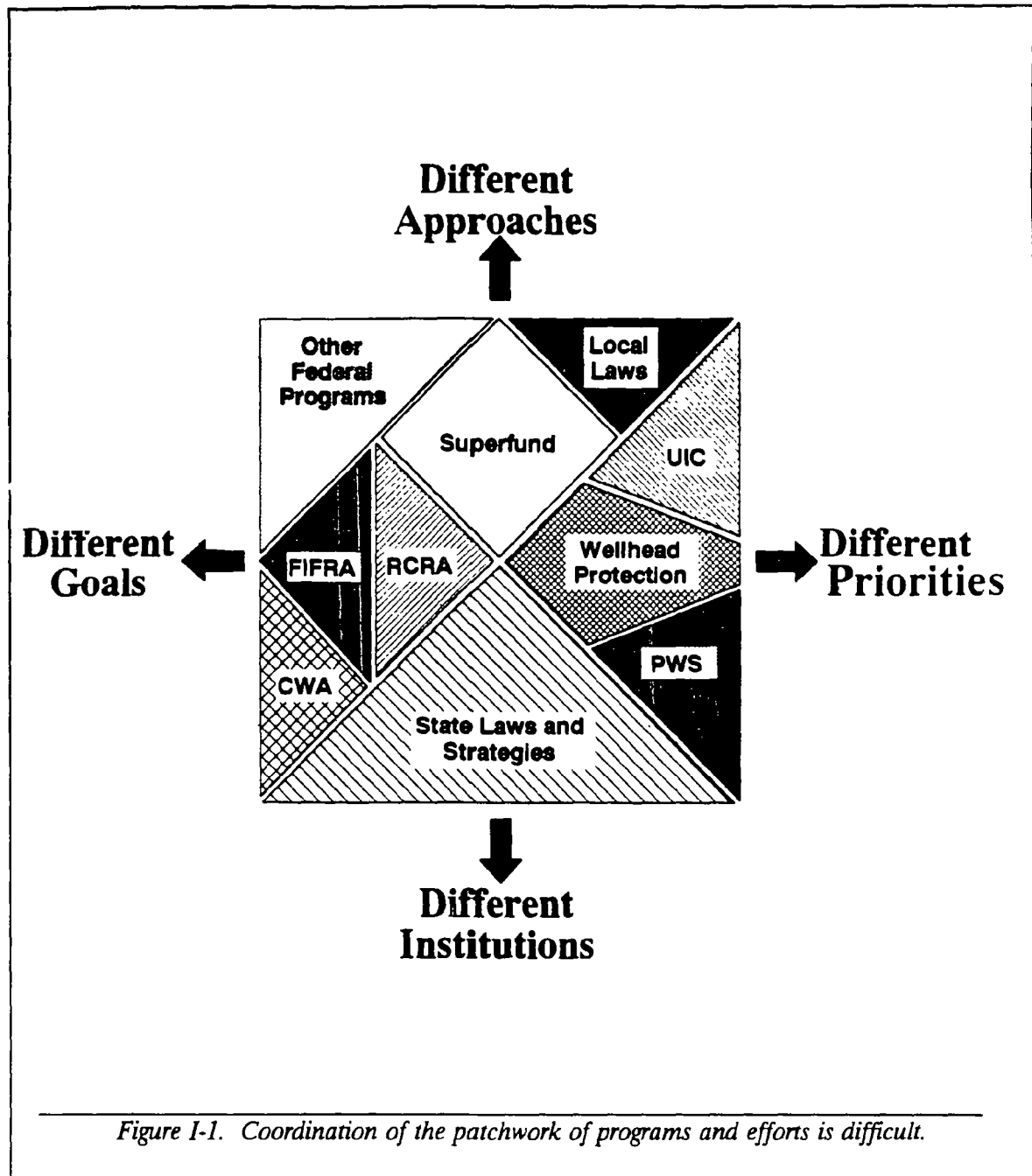
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This Guidance describes the cooperative process that States and EPA will use in developing and implementing the CSGWPP approach.



## I. INTRODUCTION

In 1991, EPA released its Ground Water Protection Strategy for the 1990s. The Strategy sets forth the Agency's ground water protection goal and principles, and introduces the concept of Comprehensive State Ground Water Protection Programs (CSGWPPs). These CSGWPPs will be the focal point for a long-term joint commitment between EPA and the States<sup>1</sup> to achieve a more coherent and comprehensive approach to protecting the nation's ground water resources.

As the 1991 Strategy makes clear, EPA recognizes that much remains to be done to ensure comprehensive protection of the nation's ground water resources. State ground water programs vary considerably from one State to another and are often a patchwork of federal, State, and local source control efforts, focusing on individual sources of contamination rather than the resource as a whole. Coordination of this patchwork of programs and efforts is difficult due to the number of different goals, priorities, approaches, and responsible institutions that are involved (Figure I-1). Furthermore, federal source control programs focus on contamination that, in aggregate, presents significant risks on a national basis, but may not represent the most important threats at the local level to either drinking water supplies or ground water recharge to aquatic ecosystems. Many small, dispersed, or nonpoint sources of contamination remain unaddressed. Commercial, residential, and industrial development frequently occurs with little or no recognition of the long-term impacts on the quality of ground water.

Since the release of the 1991 Strategy, EPA has learned more, through extensive discussions with the States, about inconsistencies and rigidities among federal ground water-related programs, which result in inefficient expenditures of efforts and less effective protection of the resource. EPA also has come to realize that State ground water protection capabilities as well as the needs, priorities, and approaches of the States are not always well understood or incorporated into federal ground water protection efforts. Lack of agreement about what constitutes a comprehensive State ground water protection program and the absence of a current vehicle for communicating the details of such State capabilities and needs to other federal programs cause missed opportunities. Given the strong and highly-varied presence of the federal government in ground water protection issues (i.e., EPA regulatory programs, other agencies' regulatory programs, federal facilities, etc.), such a situation is problematic even for those States that believe they have, or could accomplish, a comprehensive program alone.

EPA wants the CSGWPP approach to be the catalyst for fundamental changes in the development and implementation of ground water protection programs at the federal, State, and local levels. These changes will lead to increased integration of all ground water protection efforts, based upon a comprehensive resource-oriented perspective and State-centered priorities (Figure I-2). EPA and the States will work together to develop and implement CSGWPPs that provide greater flexibility for States to tailor the multitude of program efforts to each State's most significant ground water protection needs. Of course, if CSGWPPs are to be fully successful, EPA and the States also will have to work closely with other federal agencies to ensure that State priorities are taken into account, and the States will have to obtain cooperation from localities that are key to ground water protection. Although EPA does not have statutory authority to require CSGWPPs, the intended advantages to the States should result in their active participation, as partners in achieving the CSGWPP approach.

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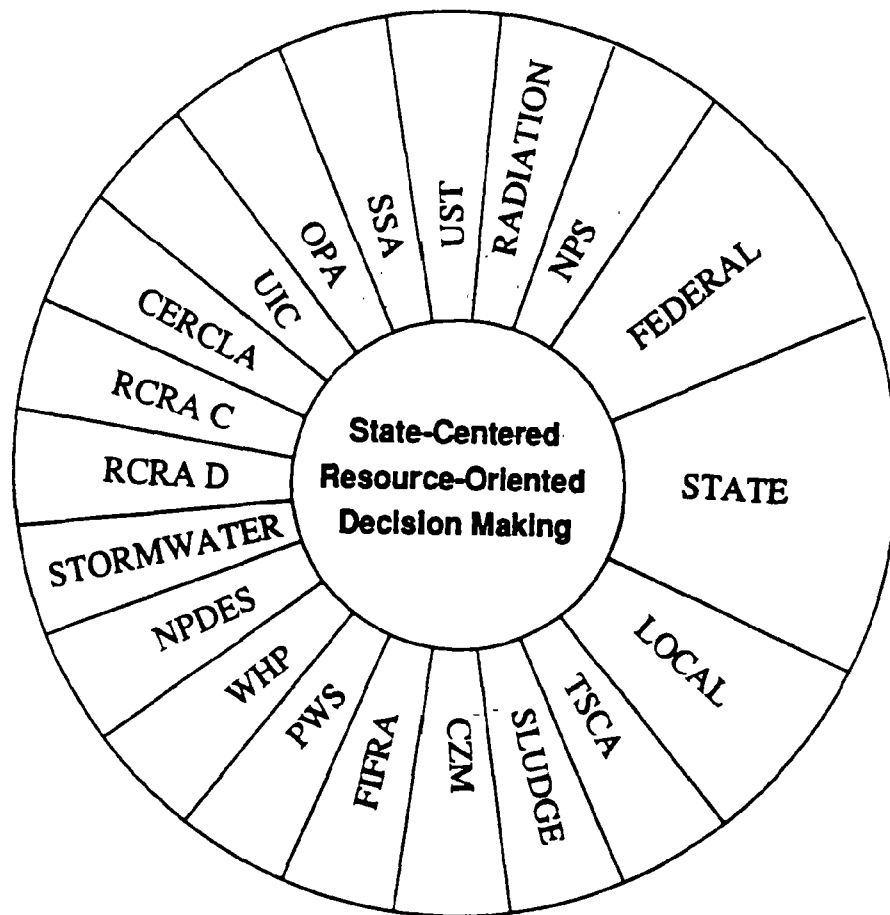
<sup>1</sup>Except where necessary to reflect differences between States and Native American Tribes, the balance of this Guidance uses "State" to refer to both States and the Tribes.

- Chapter II, Strategic Activities, describes the six activities that constitute the CSGWPP approach. *[Note to Reviewers: For this draft Guidance, only the adequacy criteria that States and Tribes need to satisfy to achieve a Fully-Integrating CSGWPP are presented. EPA is specifically requesting reviewers to identify what adequacy criteria should be adopted for a Core CSGWPP.]* In addition, this chapter outlines other activities that States and Tribes should consider in the development of their Comprehensive Programs.
- Chapter III, Development and Review Process, describes the process that EPA and States are to follow to develop each State's CSGWPP.
- Chapter IV, Linkage with Other Federal Programs, describes the linkages between the CSGWPP and the various EPA and other federal programs related to ground water.
- Appendix A describes the Agency's policy on the definition of reasonably expected sources of drinking water.
- Appendix B provides a glossary of acronyms used in the Guidance.

#### **B. What is a Comprehensive State Ground Water Protection Program?**

A Comprehensive State Ground Water Protection Program consists of a set of six Strategic Activities, which foster more efficient and effective protection of ground water through more cooperative, consistent, and coordinated operation of all relevant federal, State, and local programs within a State. The six Strategic Activities are:

- Establishing a ground water protection goal to guide all relevant federal, State, and local programs operating within the State;
- Establishing priorities; based on characterization of the resource, identification of sources of contamination, and programmatic needs, to guide all relevant federal, State, and local programs and activities in the State toward the most efficient and effective means of achieving the State's common ground water protection goal;
- Defining authorities, roles, responsibilities, resources, and coordinating mechanisms across relevant federal, State, tribal, and local programs for addressing identified ground water protection priorities;
- Implementing all necessary efforts to accomplish the State's ground water protection goal consistent with the State's priorities and schedules;
- Coordinating information collection and management to measure progress, re-evaluate priorities, and support all ground water-related programs; and
- Improving public education and participation in all aspects of ground water protection to achieve support of the State's protection goal, priorities, and programs.

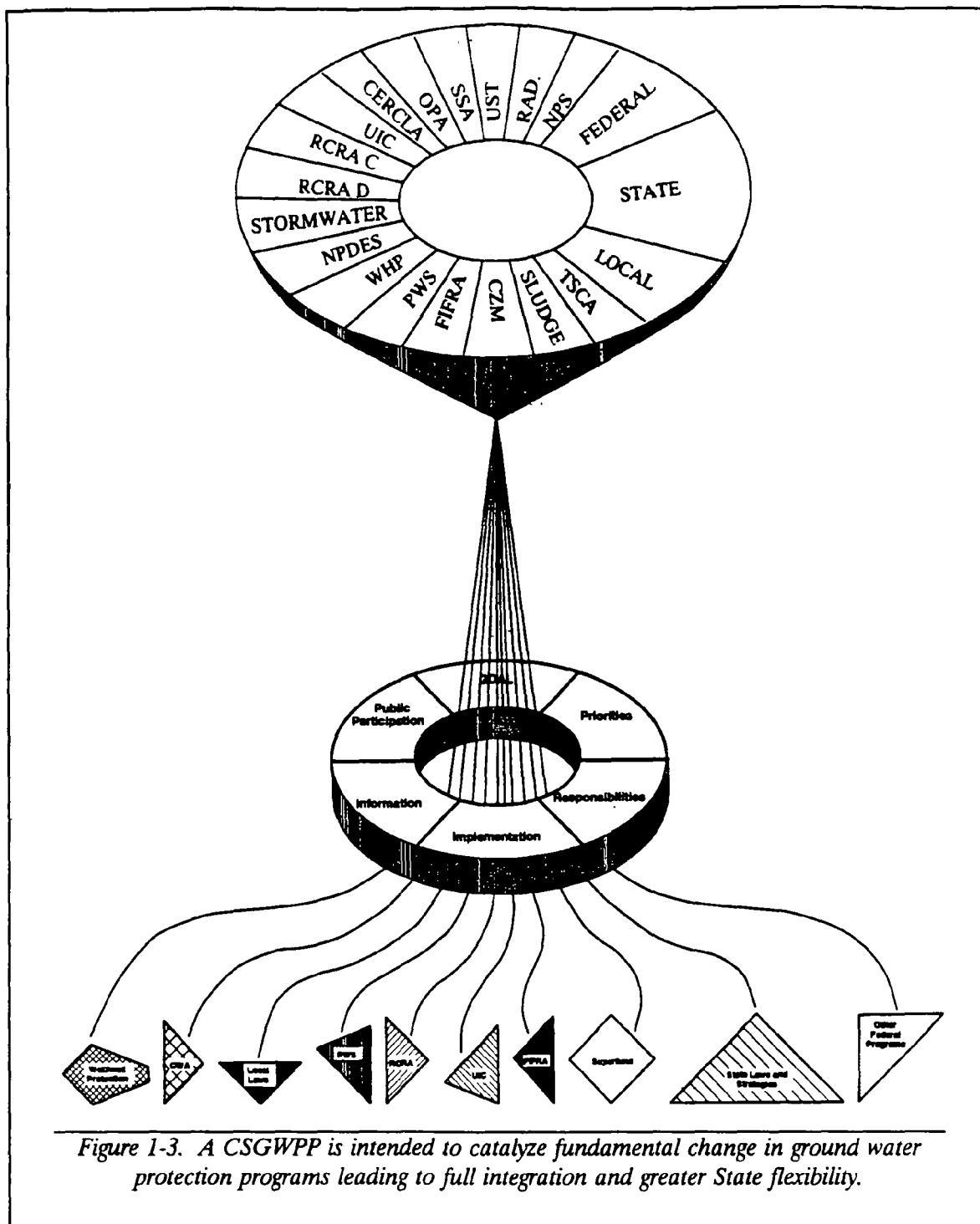


*Figure I-2. By centering all programs on a core of resource-based State goals and priorities, and integrating all programs, coordination will be significantly enhanced and the resource better protected.*

#### A. STRUCTURE OF THIS GUIDANCE

This Guidance is composed of four chapters and two appendices.

- This chapter, the Introduction, provides a short description of the CSGWPP approach and how it will be developed jointly by EPA and the States in consultation with other federal agencies and local governments. It then outlines the consultative process involving persons from EPA, State, and Tribal ground water protection organizations that was used to develop both the CSGWPP approach and this Guidance. Finally, the Introduction provides a summary of the key issues that were addressed in the Guidance development process.



*Figure 1-3. A CSGWPP is intended to catalyze fundamental change in ground water protection programs leading to full integration and greater State flexibility.*



While planning is necessary in developing and implementing these Strategic Activities, a plan does not by itself constitute a CSGWPP. The Comprehensive Program focuses on the coordinated and consistent implementation of the six Strategic Activities across all ground water-related programs. As shown in Figure I-3, the Strategic Activities of a CSGWPP are meant to influence all ground water-related programs within the State, including those of EPA and, where appropriate, other federal programs in a way that results in fundamental changes in their overall approach to ground water protection. Such influence should result in greater integration and efficiency of all program efforts through its focus on State-derived, resource-based protection priorities.

### **C. BENEFITS OF THE CSGWPP APPROACH**

The benefits of the CSGWPP approach fall into five general areas:

- **Protection of the Resource:** Current federal, State, Tribal, and local ground-water protection programs and activities will be better coordinated, resulting in more effective and consistent protection of the resource. As each State integrates its ground water protection programs, it will be able to identify gaps that may exist in ground water protection efforts. Those gaps then can be addressed in priority fashion.
- **Increased State Control to Target Efforts Towards Highest Priority Protection:** States will have greater flexibility in directing their ground water protection activities. Under its 1991 Ground Water Strategy, EPA is seeking to provide States with the primary role in designing and implementing programs to protect the resource consistent with local needs and conditions and greater flexibility in implementing each of the various Agency programs related to ground water protection. Currently, under most of EPA's programs, some flexibility is provided to a State based on the State's meeting certain adequacy criteria. EPA is using the CSGWPP approach to catalyze further State flexibility and consistency of State adequacy criteria among individual programs. At a minimum, the approach should reduce the burden on the States in meeting numerous program criteria from several different programs. EPA's intention is that this integrated approach will provide a broader decision-making framework for States across programs, sources of contamination, and geographic areas. Furthermore, successful CSGWPP implementation should forestall unnecessary ground water-related legislation that could reduce a State's flexibility to address its highest priority ground water protection needs. EPA also will use the CSGWPP approach as a basis for suggesting appropriate changes to existing federal statutes and regulations to allow States greater flexibility to achieve comprehensive resource-oriented ground water protection.
- **More Efficient Use of Program Resources:** Through increased program coordination alone, States with Comprehensive Programs will be able to better coordinate the expenditure of their limited resources under each relevant program. More importantly, the CSGWPP approach recognizes the need to set priorities and differently manage protection of ground water resources. Such an approach allows for a greater focus of resources and manpower for a variety of functions (i.e., site clean-ups, permitting, inspection activities) on the most critical human

effecting both improvements in existing States programs and fundamental changes in the operation of federal programs.

### **A Long-Term Process: From "Core" CSGWPP to "Fully-Integrating" CSGWPP**

EPA expects the development of CSGWPPs that achieve all the benefits of the approach to require a number of years. Figure I-4 illustrates the long-term process, envisioned by EPA, of a State's continuous improvement from a "Core" CSGWPP to an eventual "Fully-Integrating" CSGWPP. To parallel the States' efforts to improve their six Strategic Activities of a CSGWPP, EPA will undertake self-assessments of its own programs and will work with other federal agencies and the Congress to tailor new programs or modify existing programs so they are flexible and capable of adopting the ground water protection goal, priorities, and approaches of each State's CSGWPP.

The eventual goal -- attainment of a Fully-Integrating CSGWPP -- means that ground water protection efforts are coordinated and focused across all federal, State, and local programs based on a State's understanding and decisions regarding the relative use, value, and vulnerability of its ground water resources, including the relative threat of all actual or potential contamination sources. A Fully-Integrating CSGWPP addresses all of the adequacy criteria for each of the six Strategic Activities of a CSGWPP described in Chapter III of this Guidance. The adequacy criteria for a Fully-Integrating CSGWPP provide considerable flexibility in what each State's Fully-Integrating CSGWPP will actually encompass. Thus, a State can tailor its Fully-Integrating CSGWPP to emphasize those decision-making responsibilities it believes are most suitable to its own purposes. EPA is committed to working with each State in a joint effort to gain additional decision-making responsibilities under various federal programs and achieve a Fully-Integrating CSGWPP.

A "Core" CSGWPP represents a State's initial commitment to working jointly with EPA to move toward a Fully-Integrating CSGWPP. A Core CSGWPP provides the means for States to demonstrate, and for EPA and others to endorse, the State's potential to be the primary decision-maker in ground water protection efforts. A State will attain a Core CSGWPP when it has met the minimum adequacy criteria for each of the six Strategic Activities as described in Chapter III. *[Note to Reviewers: Only the adequacy criteria for a Fully-Integrating CSGWPP are presented in this draft. EPA is specifically requesting comment on which adequacy criteria presented in Chapter III for a Fully-Integrating CSGWPP should be considered as minimum criteria for a Core CSGWPP.]* EPA will assist a State in understanding whether or not it has attained the Core CSGWPP by reviewing program submissions and either endorsing<sup>2</sup> the State's Comprehensive Program as having achieved the Core level or recommending changes and improvements.

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<sup>2</sup>EPA's Ground Water Protection Strategy stated that EPA would "concur" on a State's determination that it had obtained a CSGWPP. Comments from State officials suggest that this term does not characterize the State/EPA relationship necessary to the CSGWPP approach correctly, but instead implies program delegation as usual. Because this program is meant to be fundamentally cooperative and consensual, the term "endorse" has now been adopted to indicate the intended relationship.

health and environmental risks. States can direct their manpower and resources more efficiently and effectively to their highest priority activities, even within the statutory constraints presented by ground water protection laws such as RCRA, FIFRA, and CERCLA. The CSGWPP approach will increase the focus on those longer-term activities necessary for building general State capacity in ground water protection. Furthermore, the CSGWPP approach will provide a framework for better demonstrating overall effectiveness in ground water protection and thereby provide a better basis for justifying additional financial needs for further program development.

- Reduced Potential for Actions to be at Cross-Purposes: The CSGWPP approach will help to ensure that programs work toward the same goal in a coordinated manner. The actions of the numerous programs that affect ground water, either directly or indirectly, now can be at cross-purposes, resulting in confusion and inefficient expenditure of efforts. By integrating all programs and activities relevant to ground water protection, a CSGWPP will significantly reduce or eliminate such situations.
- Increased Public Confidence: A primary purpose of the CSGWPP is to improve public understanding of the ground water protection concerns in each State and to provide a broader context for public participation. Public participation in the CSGWPP process will enhance understanding of choices for addressing those concerns, and the social and economic as well as environmental implications and trade-offs of those choices. The CSGWPP emphasis on public participation will help gain public support for State ground water protection decision-making.

The above discussion provides a general guide to EPA's purpose in supporting the CSGWPP approach. Chapter IV of this document describes how the CSGWPP approach can benefit specific ground water-related programs. The reader should note, however, that the CSGWPP approach itself will lead to more specifically defined benefits of the approach. For example, States, working with EPA through the CSGWPP approach, will identify where their decision-making capacity allows for increased flexibility under specific programs (e.g., RCRA, FIFRA, etc.) to better tailor ground water protection efforts. These benefits will be realized as a result of the CSGWPP development and implementation, which include a long-term strategy by EPA to adopt the CSGWPP approach in new and existing regulations, as well as program operational changes laid out in State negotiations with EPA Regional Offices. This Guidance, therefore, cannot be a comprehensive catalog of the benefits that eventually will be realized through the CSGWPP.

#### **D. CSGWPP DEVELOPMENT PROCESS**

While many States have made enormous strides in ground water protection, EPA recognizes that significant gaps remain in most States. More importantly, the Agency understands that movement towards a "State-centered, resource-oriented" comprehensive approach to ground water protection will also require fundamental changes in a number of federal programs, particularly in terms of regulatory policy and federal financial support to the States. EPA and the States need to commit jointly to the CSGWPP approach as the focus of a long-term process for

## Steps for States to Take

The development process for both a Core and Fully-Integrating CSGWPP involves, as noted above, meeting adequacy criteria under the six Strategic Activities to a lesser or greater extent. The development process should build on the often extensive ground water protection efforts already being conducted within a State. The starting point is a State's ground water protection strategy<sup>3</sup> and its recent profile of current ground water programs and activities. The development process entails four general steps, which a State may undertake in combination or separately:

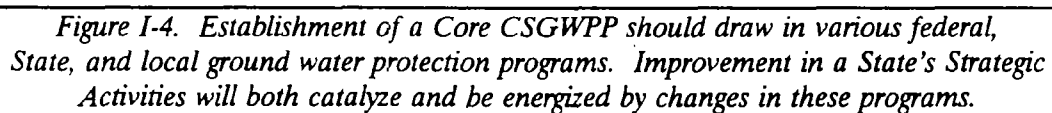
- Based on a State's ground water strategy and profile, this Guidance, and negotiations with EPA Regional Offices, each State will establish a more specific vision for what its Fully-Integrating CSGWPP will ultimately comprise in order to reflect the roles and responsibilities the State wants, and believes itself capable of undertaking, in ground water protection decision-making;
- Each State will compare its more specific CSGWPP vision to the information it collected during profiling to develop a written assessment of the activities the State must undertake to achieve, first, a Core CSGWPP and, eventually, a Fully-Integrating CSGWPP;
- Each State will co-develop with EPA a written multi-year program plan that describes how the State will develop, implement, and over time improve the Strategic Activities of its CSGWPP and describes the specific actions EPA will take to support the State's efforts, including milestones for increased program flexibility; and
- Yearly workplans for grants under all of EPA's ground water-related programs will continue to be negotiated between the State and EPA. These workplans, as appropriate, will be tied to meeting the milestones of the multi-year program plan.

EPA will formally endorse a State's attainment of a Core CSGWPP. Each State is expected to obtain a Core CSGWPP as early as possible, but no later than the end of 1995. Formal EPA endorsement of a State's achievement of a Core CSGWPP will provide the Agency, the States, other federal agencies, and the Congress with a foundation for understanding State capabilities and for the movement towards the level of a Fully-Integrating CSGWPP.

EPA understands that the status of each State or Tribal ground water protection effort is different and that each will have an individual starting point for developing its CSGWPP. In addition, EPA recognizes and is encouraged that some States, given their history of effort in ground water protection, have already met many of the adequacy criteria outlined in this Guidance.

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<sup>3</sup>All States have, at least, completed a draft ground water protection strategy; however, a number of these strategies are several years old, not finalized, or no longer operational.



- Undertaking an assessment in each Regional Office, in 1993, of the existing operations of its programs to identify opportunities for increased State flexibility in support of the CSGWPP approach;
- Planning a continuous dialogue with other federal agencies to elicit their support for the CSGWPP approach, including the development of a handbook of available federal technical assistance to the States; and
- Continuing to support the CSGWPP approach in relevant Congressional hearings on reauthorizations of pertinent statutes (e.g., RCRA, SDWA, CWA).

EPA's efforts to undertake an assessment of its own programs, develop a multi-program regulatory strategy, and to better coordinate with the other federal agencies are intended to parallel the steps being taken by the States. EPA will work with each State, as it undertakes the four steps that lead to a CSGWPP to coordinate the State's improving capabilities with the opportunities derived from these EPA's efforts for a greater State decision-making role. In particular, EPA will co-develop with each State its multi-year program plan to identify specific Agency support and to incorporate milestones for increased State flexibility, which will parallel expected program changes resulting from the Agency's multi-program ground water regulatory strategy and Regional assessments of ground water program operations.

#### **E. HOW THIS GUIDANCE WAS DEVELOPED**

This Comprehensive State Ground Water Protection Program Guidance is based upon careful development involving federal and State agencies. Development began in the Fall of 1989, when EPA Administrator Reilly formed a Ground Water Task Force to review and coordinate EPA's policy on ground water protection. The Task Force, which consisted of senior Agency managers from all offices with ground water-related responsibilities, issued its final report in July 1991. The report, Protecting the Nation's Ground Water: EPA's Strategy for the 1990s, describes the Agency's policy of engaging in an aggressive and comprehensive approach to protecting the nation's ground water resources. The Strategy:

- Sets forth principles to ensure the protection of ground water resources;
- Identifies States as having primary responsibility for ground water protection; and
- Introduces methods for improving EPA's coordination of ground water-related activities.

The Strategy outlines the CSGWPP approach that is the primary vehicle through which many of the Strategy's policies and objectives will be met. During the preparation of the Strategy, the Task Force sought comment and input from State and other federal agencies on all facets of the initial development of the CSGWPP approach.

Preparation of this guidance on implementation of the CSGWPP approach followed the release of the Strategy and also involved a high level of State input. Between December 1991 and February 1992 a series of Roundtable discussions involving EPA and State and Tribal officials from agencies with ground water responsibilities were held throughout the country. The

## **Steps for EPA to Take**

EPA has already taken several steps indicating its commitment to the CSGWPP approach and the long-term process for eventually achieving Fully-Integrating CSGWPPs. These steps include:

- Issuing EPA's 1991 Ground Water Protection Strategy, which makes a strong Agency policy statement supporting the State-based, resource-oriented CSGWPP approach;
- Investing, over the last seven years, more than \$60 million under Clean Water Act §106 in building States' general ground water protection capacity;
- Incorporating the CSGWPP approach in emerging Agency strategies, regulations, and national guidances (e.g., Pesticides and Ground Water Strategy, RCRA Subtitle D rulemaking);
- Gathering support for the CSGWPP approach in the Executive Branch of the federal government, including discussion with the White House and the Office of Management and Budget, and holding a forum with other federal agencies;
- Establishing a Ground Water Regulatory Cluster Workgroup to examine all new relevant Agency regulations to incorporate the CSGWPP approach, including increased flexibility to the States;
- Testifying before Congress, in oversight hearings, explaining the CSGWPP approach and its utility as part of emerging regulations under a variety of programs;
- Conducting a series of Roundtables with many State and Tribal officials to discuss how the CSGWPP approach could best address State and local needs and concerns;
- Developing this Guidance in close consultation with State representatives; and
- Issuing this Guidance, which furthers the concept of the CSGWPP approach and reflects a multi-program Agency effort. Of particular note, Chapter IV of this Guidance provides an initial overview of all EPA ground water-related programs, which EPA and the States can now build upon to further define and develop the relationships between these programs and the CSGWPP approach.

EPA is undertaking or plans to undertake in the near future the following activities:

- Issuing a grants handbook indicating where States have the ability to undertake program-specific activities that would also support the CSGWPP approach;
- Developing a long-term multi-program regulatory strategy that will establish a timetable for incorporating the CSGWPP approach into existing, as well as new, Agency regulations and national program guidances.

water policies, priorities, and approaches by all relevant federal programs, and will seek flexibility in programmatic and grant requirements, where possible under current law.

The development and implementation of the CSGWPP itself requires State flexibility. Ground water resources vary from one location to another, and flexibility is necessary to address the unique characteristics of each State. However, the States and EPA recognize the need for a base level of effective ground water protection across all States.

In order to ensure a base level of effective ground water protection, EPA and the States, in consultation with other federal agencies, have set forth adequacy criteria for each of the Strategic Activities. The adequacy criteria have been chosen to provide a balance between stipulating requirements of accountability for a base level of effective ground water protection and providing each State with the flexibility necessary to tailor its programs to its unique circumstances.

Many federal ground water-related programs now have adequacy criteria or their equivalent. These adequacy criteria differ from program to program. One of the primary intents of the CSGWPP approach is to make these adequacy criteria more consistent and coordinated for the States. EPA will ensure that all relevant EPA programs (e.g., solid and hazardous waste, pesticides, underground storage tanks, nonpoint source, etc.) are involved in the negotiations with the States on their CSGWPPs to ensure consistent Agency policy regarding State flexibility. Moreover, EPA will take steps to ensure consistent Agency policy across its Regional offices. EPA will also encourage other federal agencies to examine the CSGWPP approach to determine where they may provide to States flexibility or decision-making roles in ground water protection aspects of their programs.

### **Integration with Other Federal Programs**

EPA is coordinating with federal agencies to encourage them to provide technical assistance, use State priorities for ground water-related activities, and act in accordance with State standards established under a CSGWPP. EPA is pursuing federal program integration based on State CSGWPP priorities, and is working with other federal agencies to attempt to align their programs to the maximum extent possible. Through the CSGWPP, federally-mandated ground water activities should be integrated with State policies, priorities, and standards, although the extent of possible integration will be bounded by existing or new federal legislative requirements. As a result, federal program integration cannot be successful without the States. EPA, other federal agencies, and the States must pursue integration in concert. This Guidance describes how other federal programs related to ground water will coordinate under the CSGWPP approach.

### **Cooperation and Involvement of All Levels of Government**

Interstate and international coordination and involvement of local governments are all part of the CSGWPP approach. Some States may identify the need for international cooperation with Mexico and Canada. In conjunction with the appropriate federal agencies and laws, these States may set up appropriate international cooperative mechanisms to ensure comprehensive protection of their ground water resource.

Interstate coordination may be appropriate when a single aquifer underlies more than one State. In such instances, the affected States will need to coordinate their priority setting activities



Roundtables were organized to provide a forum for State and Tribal views on four key subjects: (1) what are the necessary elements of a successful CSGWPP; (2) what are the criteria for determining the adequacy of each CSGWPP element; (3) what can prevent successful implementation of a CSGWPP; and (4) what EPA can do to help the States and Tribes implement CSGWPPs successfully.

The Roundtable Discussion approach introduced a new and innovative dimension to program guidance development. Thirteen separate Roundtables, with a total of over 700 State and Tribal participants, were held around the country. Comments, opinions, and questions from the Roundtables have been used to inform EPA decision making and have influenced the development of the draft CSGWPP Guidance in many ways. For example, the number of CSGWPP elements was reduced and revised to six Strategic Activities to reflect views expressed in the Roundtables; specific adequacy criteria were included or excluded based on State and Tribal arguments; and certain procedures associated with the CSGWPP process were revised. In particular, EPA initially planned on providing a State with increased flexibility only when the State had a fully implemented, EPA-concurred-upon CSGWPP. However, Roundtable participants suggested instead that increased program-specific flexibility should occur as specific milestones are met in the progressive implementation of each State's CSGWPP. This Guidance adopts that approach.

#### **F. ISSUES RAISED AT EPA/STATE ROUNDTABLES**

In addition to considering the appropriate components of a Comprehensive State Ground Water Protection Program, the Roundtables devoted particular attention to several major issues involved in the CSGWPP approach. They included sources of funding, State program flexibility, federal program integration, and how to involve all levels of government in CSGWPPs. Each of these issues is discussed in the balance of this chapter.

##### **State Program Funding**

One primary means for achieving the CSGWPP approach is to provide each State with greater flexibility to better focus **existing** funding to more effectively and efficiently protect ground water resources. EPA is working to increase State grant flexibility under its various ground water-related programs. EPA has prepared a "Handbook for State Ground Water Managers," which describes how each relevant EPA program grant can assist a State in achieving a CSGWPP. The Agency is also encouraging other federal agencies to provide such flexibility or to target their relevant resources and efforts to address the States' ground water protection priorities. EPA recognizes the States' financial restraints and is committed to helping States achieve CSGWPPs even though no new funding is available. By implementing the CSGWPP approach, EPA and the States will be able to better demonstrate their effectiveness in protecting ground water and thereby to better justify any additional financial needs for ground water program development and implementation.

##### **State Program Flexibility**

The CSGWPP approach is intended to be a catalyst for increased State flexibility in addressing ground water protection priorities. EPA will encourage deference to State ground

to ensure consistent protection of the aquifer. EPA will assist States in implementing interstate agreements and will mediate the differences between States when necessary.

EPA and the States recognize the need for each State to work with its local governments to determine the roles and responsibilities of local governments in the State CSGWPP. EPA will assist in this effort by providing technical support to local governments when appropriate and will serve as a clearinghouse for information on beneficial roles for local governments in ground water protection.

Native American Tribes are important in the national effort to protect ground water. Tribes may choose to develop their own CSGWPPs or work within a relevant State's CSGWPP. Tribal CSGWPPs should include the Tribe's policies and provisions for coordination with the CSGWPPs of adjacent States where a single aquifer underlies both Tribal and State lands. EPA will assist Tribes and States in implementing interjurisdictional agreements and will mediate differences when necessary.

## II. THE SIX STRATEGIC ACTIVITIES OF A COMPREHENSIVE PROGRAM

A Comprehensive State Ground Water Protection Program consists of a set of six Strategic Activities, which foster more efficient and effective protection of ground water through more cooperative, consistent, and coordinated operation of all relevant federal, State, Tribal, and local programs within a State. Attaining a Fully-Integrating CSGWPP requires that these Strategic Activities fundamentally influence and be supported by the day-to-day operations of all ground water-related programs within the State, including those of EPA, and, where relevant, other federal programs. EPA recognizes that fundamental changes in its own and other federal agency programs are just as much a prerequisite to achieving a Fully-Integrating CSGWPP as the Strategic Activities that a State needs to undertake. However, to initiate or accelerate these federal program changes, there must be both an initial tangible commitment and a catalytic mechanism; EPA believes its joint support with the States of Core CSGWPPs will meet both needs.

EPA and the States, in consultation with other federal agencies, have established adequacy criteria for each of the six CSGWPP Strategic Activities. EPA recognizes and is encouraged that some States, given their history of effort in ground water protection, have already met many of the adequacy criteria outlined in this Guidance. These adequacy criteria have been chosen to provide a balance between stipulating requirements of accountability for effective ground water protection and providing each State with the flexibility necessary to tailor its programs to its unique circumstances. States are, however, encouraged to work with adjacent States to achieve consistency in how adequacy criteria are met to facilitate resolution of inter-State ground water protection issues.

Adequacy criteria are presented for both the Core and Fully-Integrating levels of a CSGWPP. [Note to Reviewers: *Only the adequacy criteria for a Fully-Integrating CSGWPP are presented in this draft. EPA is specifically soliciting comments on which adequacy criteria of a Fully-Integrating CSGWPP should be considered as minimum criteria for a Core CSGWPP.*] The primary differences in the adequacy criteria at these two levels relate to the scope of the activity, the degree of sophistication, and the timing and degree of influence on all relevant operating programs and activities within the State. For some adequacy criteria, initiation of efforts as opposed to full implementation will differentiate a Core CSGWPP from a Fully-Integrating CSGWPP.

*[Note to Reviewers: For example, the first two adequacy criteria for the Strategic Activity of setting a ground water protection goal could be minimum for a Core CSGWPP. However, the third criterion -- that the State's goal guides all ground water-related agencies -- will likely take some time. Furthermore, under this Strategic Activity, EPA will be working to ensure that federal programs are guided by each State's ground water protection goal to the greatest extent possible and this too will take time. Therefore, the third adequacy criteria for setting a ground water protection goal may not be appropriate for the Core CSGWPP level.]*

*Another example, in Strategic Activity 2, which deals with priority-setting, is the adequacy criterion that calls for ground water resource assessments. At the Core CSGWPP level, these assessments probably would not be comprehensive or provide total geographic coverage within a State. However, a State's Core CSGWPP should have established the definitions and mechanisms for ground water assessments sufficient to support ground water decision-makers as issues evolve.*

*A third example concerns the adequacy criterion for a minimum set of data elements for all ground water-related programs within the State. At the Core CSGWPP level the State might only need only to define the minimum set and have in place a plan for eventual implementation of the minimum set of data elements across all relevant programs over a several year period.]*

The term "sufficient" is used in a number of adequacy criteria for a Fully-Integrating CSGWPP. It indicates where specific agreements between EPA and States must occur. What is considered "sufficient" will depend on the level of flexibility a State is seeking from EPA. As policy evolves in this area, the Agency will take steps to ensure that such negotiations are based on consistent policy across all ten of its Regional Offices.

In addition to adequacy criteria, EPA has indicated additional factors to be considered in developing and implementing CSGWPPs. These factors have been developed to serve as a guide to States in developing and implementing ground water protection activities under the CSGWPP framework. These factors are not adequacy criteria, but EPA believes that these considerations are relevant in developing and implementing a CSGWPP.

EPA will undertake case studies and work with the States and other federal agencies to provide examples of what should be included in a CSGWPP at both levels.

**STRATEGIC ACTIVITY 1**  
**ESTABLISHING A GROUND WATER PROTECTION GOAL TO GUIDE**  
**ALL RELEVANT PROGRAMS IN THE STATE**

**A. ADEQUACY CRITERIA FOR A FULLY-INTEGRATING CSGWPP**

- A State ground water protection goal is established through sufficient public participation. (A ground water protection goal adopted by State statute or regulation will be considered to have been established with sufficient public participation.).
- The State's ground water protection goal is compatible with EPA's ground water protection goal<sup>4</sup>.
- The State's ground water protection goal guides all ground water-related State agencies. EPA will work to have the State's goal guide all ground water-related federal programs to the extent possible under federal law.

**MINIMUM ADEQUACY CRITERIA FOR A CORE CSGWPP**

Of the adequacy criteria listed above for a Fully-Integrating CSGWPP, the following are necessary for a Core CSGWPP:

*[Note to Reviewers: Only the adequacy criteria for a Fully-Integrating CSGWPP are presented in this draft. EPA is specifically soliciting comments on which adequacy criteria of a Fully-Integrating CSGWPP should be considered minimum adequacy criteria for a Core CSGWPP.]*

**B. ADDITIONAL FACTORS TO BE CONSIDERED**

- A State's goal should address what ground water will be protected and the degree of protection to be achieved.
- A State's goal should be consistent with other State water quality and environmental goals.

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<sup>4</sup>EPA's overall ground water policy goal is to prevent adverse effects to human health and the environment and to protect the environmental integrity of the nation's ground water resources; in determining appropriate prevention and protection strategies, EPA will also consider the use, value, and vulnerability of the resource, as well as social and economic values.

## STRATEGIC ACTIVITY 2

### ESTABLISHING PRIORITIES, BASED ON CHARACTERIZATION OF THE RESOURCE, IDENTIFICATION OF SOURCES OF CONTAMINATION, AND PROGRAMMATIC NEEDS, TO DIRECT ALL RELEVANT PROGRAMS AND ACTIVITIES IN THE STATE TOWARD THE MOST EFFICIENT AND EFFECTIVE MEANS OF ACHIEVING THE STATE'S COMMON PROTECTION GOAL

#### A. ADEQUACY CRITERIA

- Basic definitions and approaches to the priority-setting process are consistently applied across ground water resources and contamination sources.
- Priorities derived, in part, from State decisions on what types of ground water resources within the State are to be protected and to what degree, are based on consideration of the following factors:
  - Intrinsic sensitivity, hydrogeologic regimes and flow patterns (recharge/discharge areas), and geologic/hydraulic parameters;
  - Determination of quantity and potential yield;
  - Ambient and/or background ground water quality and remediation technologies;
  - Current use and value;
  - Potential future use and value based on demographics, land use, remoteness, quality, and availability of alternative water supplies;
  - The interactions and potential contamination impacts between surface and ground water and the value of ground water quality to the maintenance of ecosystem integrity;
  - Inter-jurisdictional issues; and
  - A State definition of "reasonably expected sources of drinking water" (or its equivalent) and definition of other beneficial uses or values (e.g. ground waters supporting valuable surface water ecosystems) *[Please see Appendix A for a description of EPA's emerging policy for how a State's definition of "reasonably expected sources of drinking water" (or its equivalent) and other valuable uses or benefits will be employed by EPA's regulatory programs (e.g., RCRA, CERCLA, FIFRA, and Radiation)]*.
- Contamination source inventories and assessments are sufficient to support the State's process for consistently determining its ground water protection priorities.
- Formally adopted measures of ground water protection (e.g. performance standards, quality standards, reference points, etc.) are sufficient to support consistent program priority setting and the measurement of progress by the State. These measures need to be consistently applied and must not discriminate against federal facilities.

- State technical capabilities sufficiently support its priority-setting process and determinations.
- Protecting public water supplies is among the State's highest priorities and controlling sources in Wellhead Protection Areas is a priority, unless the State demonstrates that hydrogeologic conditions warrant more priority attention on other areas.
- State priorities sufficiently incorporate and support continuous improvement of the six Strategic Activities of the State's CSGWPP.

#### MINIMUM ADEQUACY CRITERIA FOR A CORE CSGWPP

Of the adequacy criteria listed above for a Fully-Integrating CSGWPP, the following are necessary for a Core CSGWPP:

*[Note to Reviewers: Only the adequacy criteria for a Fully-Integrating CSGWPP are presented in this draft. EPA is specifically soliciting comments on which adequacy criteria of a Fully-Integrating CSGWPP should be considered minimum adequacy criteria for a Core CSGWPP.]*

#### B. ADDITIONAL FACTORS TO BE CONSIDERED

- For stability, priorities should be long-term in nature and change only in the face of compelling new information or needs.
- The State demonstrates coordination of its ground water protection priorities with the State's surface water and other environmental priorities.
- The State's ground water characterization approach includes:
  - A State definition of "reasonably expected sources of drinking water" (or its equivalent) and definition of other beneficial uses or values (e.g. ground waters supporting valuable surface water ecosystems) *[Please see Appendix A for a description of EPA's emerging policy for how a State's definition of "reasonably expected sources of drinking water" (or its equivalent) and other valuable uses or benefits will be employed by EPA's regulatory programs (e.g., RCRA, CERCLA, FIFRA, and Radiation)]*;

- Detailed mapping and assessment to address the State's highest priority needs at an appropriate scale determined by a coordinated State effort;
  - A comprehensive well inventory that includes private and municipal production wells, monitoring and test wells, and injection wells;
  - A system for utilizing and integrating State and federal (e.g., USGS, USDA-SCS) ground water assessment and mapping programs; and
  - Coordination plans for areas of overlapping jurisdiction (i.e., Tribal lands, State - State boundaries, federal lands, etc.).
- Formally adopted measures of ground water protection include direct measures such as MCLs, State water quality standards, and indirect measures such as BMPs, technology standards, siting criteria, and construction standards.
  - The State considers deployment of new and alternative technologies for improved pollution prevention, control, and remediation as a priority.



**STRATEGIC ACTIVITY 3**  
**DEFINING AUTHORITIES, ROLES, RESPONSIBILITIES, RESOURCES, AND COORDINATING**  
**MECHANISMS ACROSS RELEVANT FEDERAL, STATE, TRIBAL, AND LOCAL PROGRAMS FOR**  
**ADDRESSING IDENTIFIED GROUND WATER PROTECTION PRIORITIES**

**A. ADEQUACY CRITERIA**

- Agencies or programs responsible for addressing the State's priorities are identified.
- A coordinating mechanism is operating that includes all State agencies and programs with ground water responsibilities and all programs' expertise is brought to bear on the State's ground water protection priorities.
- A primary point of contact (e.g., lead agency, coordinating committee, Governor's staff, etc.) with EPA is established for the development and implementation of CSGWPPs across involved agencies.
- Legal authorities and resources are available and sufficiently address ground water protection and remediation requirements and priorities or the State is implementing a plan for addressing gaps in its legal authorities or resources.
- Relevant federal agencies, operating within the State, are sufficiently consulted in the development and implementation of the CSGWPP.
- Tribal officials are sufficiently consulted in the development and implementation of the CSGWPP.
- Local governments are included in developing and implementing the CSGWPP and where local governments are given or have authority to address State ground water-related objectives and priorities, States have sufficient coordination, guidance, or oversight mechanisms.

### **MINIMUM ADEQUACY CRITERIA FOR A CORE CSGWPP**

Of the adequacy criteria listed above for a Fully-Integrating CSGWPP, the following are necessary for a Core CSGWPP:

*[Note to Reviewers: Only the adequacy criteria for a Fully-Integrating CSGWPP are presented in this draft. EPA is specifically soliciting comments on which adequacy criteria of a Fully-Integrating CSGWPP should be considered minimum adequacy criteria for a Core CSGWPP.]*

#### **B. ADDITIONAL FACTORS TO BE CONSIDERED**

- The State coordinating mechanism is able to influence the movement of human and financial resources to target joint efforts valuable to more than one State program.
- Capabilities and mechanisms for inter-State coordination of ground water protection issues are described.

**STRATEGIC ACTIVITY 4**  
**IMPLEMENTING ALL NECESSARY EFFORTS TO ACCOMPLISH THE STATE'S GROUND WATER**  
**PROTECTION GOAL CONSISTENT WITH THE STATE'S PRIORITIES AND SCHEDULES**

**A. ADEQUACY CRITERIA**

- Programs with measurable objectives are implemented to the degree sufficient for attaining the State's ground water protection goal and priorities. Such programs include those aimed at:
  - Reducing or eliminating potential environmental releases that may adversely impact ground water quality;
  - Controlling contamination sources through permitting authorities, performance standards, enforcement and compliance activities, land-use regulations, facility siting, and other regulatory and non-regulatory activities; and
  - Remediating ground water contamination.
- Agreements defining the roles of EPA and the State necessary to protect ground water resources are established as interim measures for a State that has not yet received EPA approval or delegation for a particular ground water-related program.
- Characterization and assessment of the resource and water quality monitoring information sufficiently support rational and consistent decision-making for tailoring prevention, control, and remediation measures to specific sites or areas.
  - All factors described in Strategic Activity 2 are considered.
  - The State has the technical capabilities necessary to support its decision-making process.
- Definitions and approaches for ground water characterization (i.e. varying use, value, and vulnerability, as well as monitoring data) and source assessment information are used consistently in determining and implementing appropriate prevention and remediation methods *[Please see Appendix A for a description of EPA's emerging policy for how a State's definition of "reasonably expected sources of drinking water" (or its equivalent) and other valuable uses or benefits will be employed by EPA's regulatory programs (e.g., RCRA, CERCLA, FIFRA, and Radiation)]*.
- A variety of prevention measures are implemented in the absence of actual detection of contamination in ground water.
- Additional preventive measures are implemented if contamination is detected or is increasing towards a concentration considered as a reference point for the State's ground water protection goal.
- Action will be taken if contamination has reached or exceeded a concentration considered as a reference point for that State's ground water protection goal.

- Provisions are in place to avoid cross-media contamination during remediation and prevention activities.
- The State is implementing an EPA-approved Wellhead Protection Program.

#### MINIMUM ADEQUACY CRITERIA FOR A CORE CSGWPP

Of the adequacy criteria listed above for a Fully-Integrating CSGWPP, the following are necessary for a Core CSGWPP:

*[Note to Reviewers: Only the adequacy criteria for a Fully-Integrating CSGWPP are presented in this draft. EPA is specifically soliciting comments on which adequacy criteria of a Fully-Integrating CSGWPP should be considered minimum adequacy criteria for a Core CSGWPP.]*

#### B. ADDITIONAL FACTORS TO BE CONSIDERED

- The following items should be considered in a State's program to prevent ground water contamination:
  - Certification programs for drillers, pump installers, and test samplers;
  - A plan for addressing abandoned and poorly constructed wells (i.e., problem wells) that is consistent with the State priorities and objectives;
  - Legally enforceable standards for well construction, abandonment, and testing, and a compliance program that ensures that the driller community is complying (Note: For disposal wells, these standards must be consistent with the regulatory requirements under the SDWA's Underground Injection Control (UIC) Program);
  - Regulatory and non-regulatory approaches by the State to address on-site sewage disposal as a ground water contamination concern; and
  - Other efforts to control sources of ground water protection not addressed by federal statutes or regulations.

**STRATEGIC ACTIVITY 5**  
**COORDINATING INFORMATION COLLECTION AND MANAGEMENT TO MEASURE PROGRESS,**  
**RE-EVALUATE PRIORITIES, AND SUPPORT ALL GROUND WATER-RELATED PROGRAMS**

**A. ADEQUACY CRITERIA**

- The State collects, coordinates, and manages information, including record-keeping, monitoring, and other necessary information within and across programs to measure progress toward meeting the State's ground water protection goal and priorities, re-evaluate priorities, and support all related program activities.
- The State is using data from local governments and other State and federal programs (i.e., Wellhead, Public Water Supply, etc.).
- A minimum set of data elements is defined and used by all ground water-related programs within the State to facilitate efficient data sharing and cross media analyses and provide users with consistent and comparable data.
- The State monitoring program scope and design reflect ground water priorities and contain sufficient QA/QC plans for data acquisition and analysis based on sound scientific protocols.

**MINIMUM ADEQUACY CRITERIA FOR A CORE CSGWPP**

Of the adequacy criteria listed above for a Fully-Integrating CSGWPP, the following are necessary for a Core CSGWPP:

*[Note to Reviewers: Only the adequacy criteria for a Fully-Integrating CSGWPP are presented in this draft. EPA is specifically soliciting comments on which adequacy criteria of a Fully-Integrating CSGWPP should be considered minimum adequacy criteria for a Core CSGWPP.]*

**B. ADDITIONAL FACTORS TO BE CONSIDERED**

- The State computerizes its data bases and uses geographic information management systems (GIS) to better integrate data in a manner most useful to comprehensive ground water decision-making.
- The State uses EPA's minimum set of data elements for ground water quality, which EPA programs are required to use for new ground water information systems or when modernizing old ones.
- The State uses EPA's location policy to assign latitude/longitude positions of Public Water Supplies and sources of ground water contamination in its ground water-related information systems.
- The State is encouraged to participate with EPA in the development of one or more environmental indicators that will help provide a national picture of ground water protection progress and needs. The State is encouraged to use the indicator(s), once developed, as part of its own efforts to measure progress and needs.
- The State establishes and tracks environmental indicators to measure progress in protecting its ground water resources.

**STRATEGIC ACTIVITY 6**  
**IMPROVING PUBLIC EDUCATION AND PARTICIPATION IN ALL ASPECTS OF GROUND WATER**  
**PROTECTION TO ACHIEVE SUPPORT OF THE STATE'S PROTECTION GOAL,**  
**PRIORITIES, AND PROGRAMS**

**A. ADEQUACY CRITERIA**

- Public participation in the development and implementation of a CSGWPP is equivalent to the objectives defined and employed by EPA in 40 CFR Part 25 (See Appendix A).
- An active public education program exists that addresses key issues in decisions on the goal, objectives, priorities, and progress of the State's CSGWPP.
- Sufficient information is being provided to those responsible for implementing ground water protection measures.

**MINIMUM ADEQUACY CRITERIA FOR A CORE CSGWPP**

Of the adequacy criteria listed above for a Fully-Integrating CSGWPP, the following are necessary for a Core CSGWPP:

*[Note to Reviewers: Only the adequacy criteria for a Fully-Integrating CSGWPP are presented in this draft. EPA is specifically soliciting comments on which adequacy criteria of a Fully-Integrating CSGWPP should be considered minimum adequacy criteria for a Core CSGWPP.]*

**B. ADDITIONAL FACTORS TO BE CONSIDERED**

- A public education program should be developed for better managing common practices and activities that contribute to sources of ground water contamination (e.g., private well construction, septic tanks, etc.) and that are not now regulated.
- Methods for protecting the ground water quality supplying individuals' private wells should be incorporated in a State's public education program.

### III. DEVELOPMENT PROCESS

This chapter describes the process that will be followed for development of each State's Core CSGWPP and Fully-Integrating CSGWPP. The CSGWPP process is flexible and allows each State to develop its program according to its unique hydrogeologic, demographic, and institutional characteristics.

Development of both CSGWPP levels should build on the often extensive ground water protection efforts already being conducted within a State. The starting point should be a State's existing ground water protection strategy and the recent profile developed by EPA and each State that describe the current ground water programs and activities within the State.<sup>5</sup> The development process entails the following four general steps, which may be undertaken in combination or separately:

- **Establishing a State-Specific Vision:** Based on a State's ground water strategy and profile, this Guidance, and negotiations with the appropriate EPA Regional Offices, each State should establish a more specific vision for what its Fully-Integrating CSGWPP will ultimately comprise in order to reflect not only its unique environmental and institutional circumstances, but also what roles and responsibilities the State wants, and believes itself capable of undertaking, in ground water protection decision-making. Because this vision sets the State's long-term direction for its CSGWPP, all relevant programs within the State, as well as the public, need to be involved in its formulation.
- **Assessing:** Each State should compare its more specific CSGWPP vision to the information it collected during profiling to develop a written assessment of the activities the State must undertake to achieve, first, a Core CSGWPP and, eventually, a Fully-Integrating CSGWPP. States should have a continuous dialogue with EPA Regional Offices, so that the EPA can assist States when possible and provide direction for each of the ground water-related programs.
- **Developing A Multi-Year Program Plan:** Each State should co-develop with EPA a written multi-year program plan that describes how the State will develop, implement, and over time improve the Strategic Activities of its Core CSGWPP and identify the specific actions EPA will take to support the State's efforts across all relevant programs, including milestones for increased program flexibility. In establishing the multi-year program plan, EPA and the State will utilize both the State's assessment, described above, and EPA's Regional program assessments and multi-program regulatory strategy described in Chapter 1 of this Guidance. Other federal agencies will be encouraged to join in making commitments through the plan to support the State's CSGWPP.

EPA and each State will negotiate the contents of the program plan and specific milestones based on the State's unique circumstances. EPA will endorse the plan as the basis for yearly workplan agreements for all ground water-related activities.

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<sup>5</sup>Because Native American Tribes have not yet developed profiles, EPA will be exploring options with Tribes and with agencies such as BIA and IHS or assisting them in describing their ground water protection programs and activities on Indian lands.



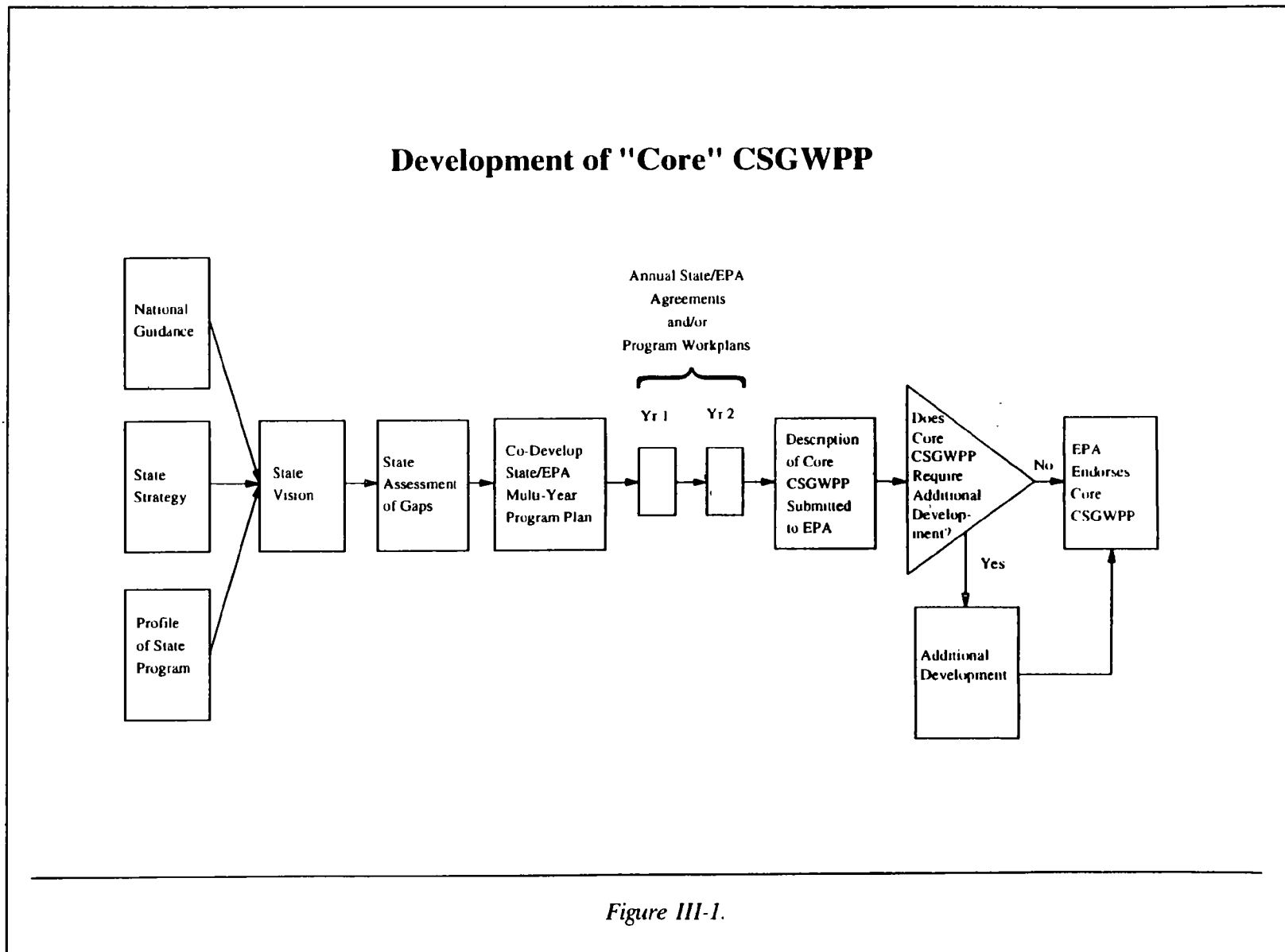
under the Agency's various programs. The completed multi-year program plan should guide all State and federal programs related to ground water in meeting the adequacy criteria of the strategic activities and supporting the achievement of a Fully-Integrating CSGWPP. The multi-year program plan should include as many specific implementation milestones for ground water efforts as possible.

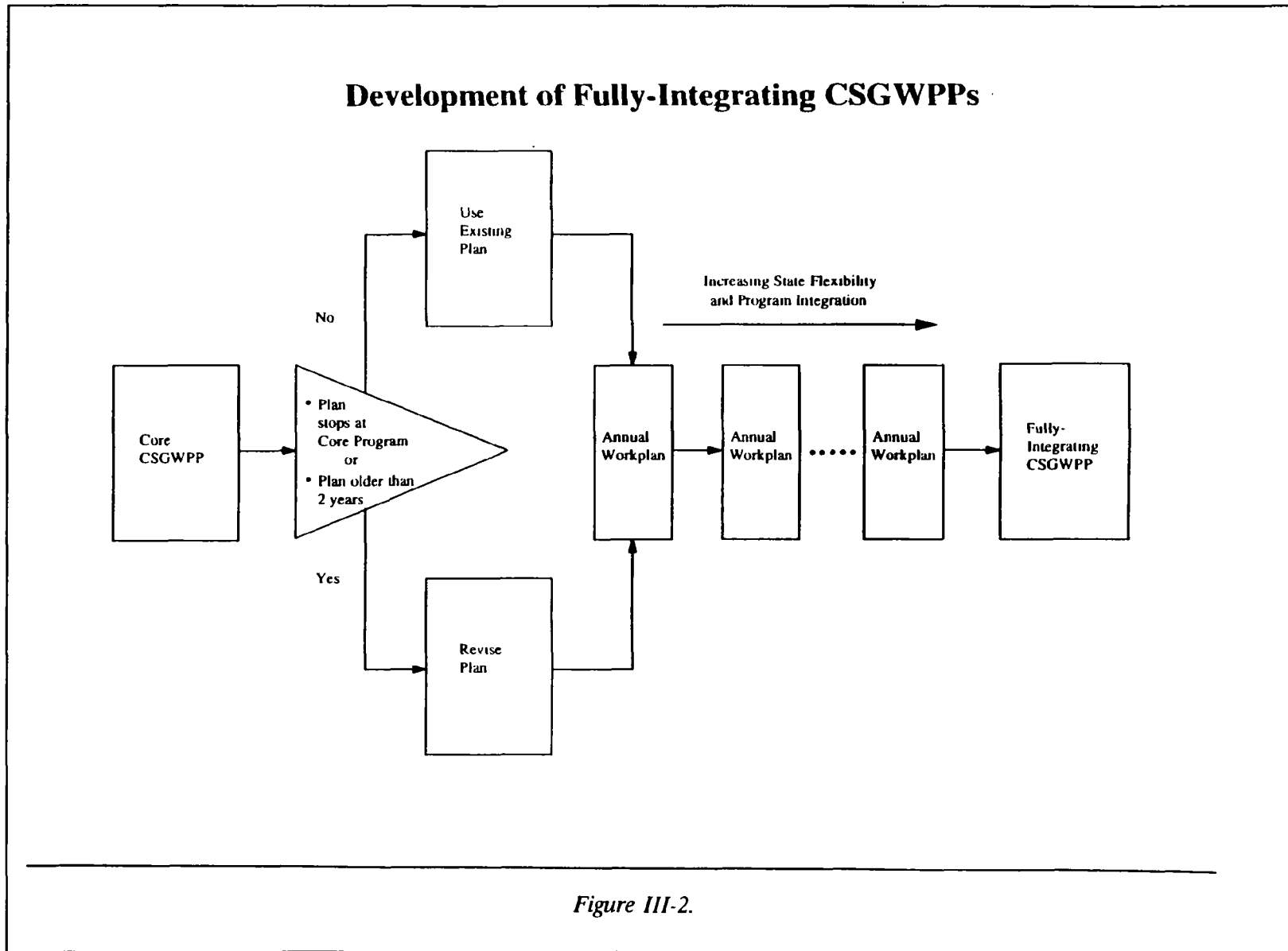
The multi-year program plan will, at a minimum, be the basis for yearly workplan agreements between the Agency and the State for the period necessary to achieve a Core CSGWPP. A multi-year program plan going beyond a Core CSGWPP to a Fully-Integrating CSGWPP should include, as a milestone, its own revision once the State has achieved the Core CSGWPP.

- **Implementing Yearly Workplans:** The annual State/EPA agreements or all program workplans relevant to ground water protection currently used by EPA and the States will be the focus for implementing the multi-year CSGWPP development plans. Yearly workplans should include a description of the mechanism established to coordinate authorities and programs under State and federal statutes, and should include implementation activities that move a State toward meeting milestones in its multi-year program plan. Each completed yearly workplan will outline specific activities to be accomplished in that year to move the State towards implementing comprehensive protection of the ground water resource. EPA will specify the increased flexibility being afforded to the State in any given year based on individual program requirements and progress toward achieving a Core and ultimately a Fully-Integrating CSGWPP.

EPA will formally endorse a State's attainment of a Core CSGWPP. It is expected that each State will obtain a Core CSGWPP as early as possible, but no later than the end of 1995. Formal EPA endorsement of a State's achievement of a Core CSGWPP will provide the Agency, the States, other federal agencies, and the Congress with a foundation for understanding State capabilities and, thereby, gain further support for the movement towards a Fully-Integrating CSGWPP.

Figures III-1 and III-2 are schematics outlining the processes for the development and EPA endorsement of a State's Core CSGWPP and Fully-Integrating CSGWPP. Given the fundamental importance of individual ground water-related programs, EPA will ensure that all relevant Agency programs (e.g., solid and hazardous waste, pesticides, underground storage tanks, nonpoint sources, etc.) are involved in all plan developments, reviews and endorsements. EPA will also encourage other federal agencies to examine the State's CSGWPP to determine where they may provide flexibility or a decision-making role to the State.





#### **IV. LINKAGE WITH EPA AND OTHER FEDERAL PROGRAMS**

The primary benefit of the CSGWPP approach will be even more effective protection of the Nation's ground water resources based on a resource-oriented decision-making process. From a programmatic standpoint, the other principal benefit to the States of the CSGWPP approach is that it provides a significant catalyst for increased State flexibility and decision-making under numerous federal programs, allowing States to tailor protection efforts to meet their unique ground water protection needs and priorities. The CSGWPP approach will achieve these benefits by linking other federal programs into a partnership with the States by having:

- CSGWPPs provide a framework within which all ground water protection efforts and activities (federal, State and local) can be coordinated. This coordination will reduce unnecessary duplication of effort and foster synergistic use of program resources to address ground water protection needs.
- CSGWPPs provide the foundation for State-centered, resource-oriented, priority-driven decision-making consistently applied across all federal and State ground water-related programs within the State. This occurs when a State's knowledge of its ground water resources (e.g., vulnerability, uses, benefits) is being employed to determine the objectives, priorities, and approaches for ground water protection programs operating within the State.

Both of these linkages result in greater efficiency and effectiveness in managing ground water protection programs so that human health and ecological goals<sup>6</sup> will be realized. EPA will work with other federal agencies to adopt a consistent approach for federal deference to State ground water decision-making across all relevant federal programs and regulations. While this effort will lead to incremental increases in State flexibility under the various individual federal programs, it is only through pursuit of a CSGWPP that a State will achieve the full, consistent, and integrated flexibility to address its ground water protection priorities across all relevant programs. This Chapter's primary focus is to describe how CSGWPPs put States in the position of making resource-oriented decisions concerning ground water protection efforts.

##### **A. COORDINATION THROUGH STATES' RESOURCE-ORIENTED DECISION-MAKING PROCESS**

As described above, providing an overall framework for coordination of federal programs with the States is one of two key means for achieving the CSGWPP approach. This, alone, has significant benefits for increasing the effectiveness and efficiency of ground water-related programs in the States. For example, program capacity could be significantly increased through CSGWPP's coordination and targeting of "same facility" inspections across programs (e.g., underground storage tanks and underground injection control inspections at gasoline service stations).

While EPA has long recognized that coordination is an extremely important means for achieving more effective and efficient protection of the resource, it is the second of the two key means for achieving the CSGWPP approach (i.e., State-centered, resource-oriented priority

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<sup>6</sup>EPA's ground water protection goal is to ". . . prevent adverse effects to human health and the environment and to protect the environmental integrity of the nation's ground water resources; . . ." See "Protecting the Nation's Ground Water: EPA's Strategy for the 1990s," July 1991, p. 5.

setting) that will provide the most significant benefits. In a world of unlimited resources, all ground water protection programs and activities could be funded and undertaken simultaneously. That world is not the one in which we live. In reality, resources are limited and ground water protection efforts therefore must be prioritized. If those priorities are not set consciously and rationally, they are set de facto. **Even when a State has adopted a policy of protecting all of its ground waters to the same degree, there remains the necessity of setting priorities for day-to-day operations**, e.g., where first to send inspectors, where first to issue permits, and where first to take remedial actions.

EPA is working to make the CSGWPP approach the centerpiece of rational, consistent, and meaningful priority decision-making in two ways:

- Through the CSGWPP Strategic Activities and adequacy criteria, EPA is encouraging States to establish consistent and rational priorities by focusing on the relative status and future prospects for their ground waters across geographic areas. Other factors for priority setting are also important, but it is the focus on State-centered, resource-based decision-making that gives CSGWPPs a unique and powerful role in ground water protection. A State should not put off setting ground water protection priorities until comprehensive ground water assessments covering the whole state are completed. Most States should be in the position of using a basic understanding of their ground water to begin applying a systematic and consistent approach to setting priorities on an "as needed" basis (e.g., when there is a facility siting issue).
- By introducing the CSGWPP concept into all emerging Agency regulations and guidances relevant to ground water, EPA is providing States with the opportunity to influence fundamental operational decisions of all of EPA's ground water-related programs based on priorities derived from a State's understanding of its resources. Appendix A of this Guidance describes one important aspect of State ground water resource information -- i.e., State determinations of "reasonably expected sources of drinking water" (or its equivalent) and other valued uses or benefits of ground water -- which will be incorporated into emerging EPA regulations. EPA is also working to provide similar opportunities for States across relevant federal programs operated by other agencies as States move toward full CSGWPP implementation.

Operationally, the benefits of the CSGWPP's State-centered, resource-oriented, decision-making approach are best illustrated by several generic examples:

- Siting of Facilities/Operations: Many, if not most, facilities and operations offering social and economic benefit are potential or actual sources of ground water contamination. Even when they are subject to exacting and best available technical and engineering requirements, some risk of release to ground water remains. By determining where not to locate such facilities based on factors such as use, value, and vulnerability of the resource, these risks to human health and the environment can be further minimized by the State.
- Reference Points: Ground water contamination control and remediation measures should be based on the level of contamination present in the ground water and on

the designated uses for the ground water (referred to as "Reference Points" in the Ground Water Protection Strategy for the 1990s). Although there is considerable uncertainty in correlating contamination control or remediation measures with a particular level of contamination, the use of reference points can help provide a State with the basis for judging one contamination problem against another and establishing priorities. Even when prevention of any release at a facility is a program objective, reference points will be useful should such measures fail and decision-makers are faced with implementing more drastic measures to prevent further contamination (e.g., immediate closure of a facility).

- **Remediation Efforts:** For some remediation programs the use, value, or vulnerability of underlying ground waters can dictate the necessary degree of clean-up. Such flexibility allows for greater focus of funds and manpower on sites with the most critical human health and environmental risks.
- **Permitting, Monitoring, and Inspecting:** Most States will not be able to pursue these activities to maximum levels at all possible sites; there are not enough resources to allow this. The differential management approach allows monitoring, permit limits, and inspection schedules to be tailored based on the use, value, vulnerability, and other similar characteristics of the resource.

Several additional examples could be cited. More specific examples appear in the next section of this chapter. Generally speaking, these examples demonstrate that comprehensive protection of the ground water resource means rational, efficient, effective, priority-based management of ground water quality.

The CSGWPP approach will be implemented within the bounds set by statutory and regulatory mandates. Nevertheless, a review of relevant federal programs suggests that significant opportunities exist, within the boundaries set by federal statutes and regulations, for State flexibility to set ground water protection priorities and tailor protection measures. EPA is working to ensure that the conditions a State must meet to gain flexibility under the variety of federal programs related to ground water are consistent across those programs and will be substantially met by a State achieving the adequacy criteria of a CSGWPP. In addition, when new legislation or reauthorizations are being considered, EPA will encourage Congress to provide States with the key decision-making role based on conditions consistent with the CSGWPP approach. EPA's task will be made easier to the extent that States have moved aggressively to implement the CSGWPP approach and are achieving the intended effective and efficient protection of the nation's valuable ground water resources.

## **B. LINKAGE TO EPA PROGRAMS**

This section expands on the generic discussion above and begins to provide some insight into how the CSGWPP approach supports all EPA programs with ground water protection responsibilities. It also demonstrates how each of the programs can be used to support the development of CSGWPPs.

This section provides specific insights into how the CSGWPP supports the provision of greater and more consistent flexibility to the States under a variety of programs. In fact, the CSGWPP is a framework which, through its Strategic Activities, integrates and coordinates all ground water activities so that, ultimately, the quality of the ground water is comprehensively and consistently protected.

The remainder of this section provides a program-by-program discussion of the linkages between the CSGWPP approach and each program. For each program, a brief description of how CSGWPP-supported resource-based decision-making would benefit the program is provided. For most programs, this is followed by a discussion of how the CSGWPP affords greater beneficial coordination to the program. Finally, for programs that provide grants to States, a brief discussion of how those grants can be used in a coordinated fashion to support the development and implementation of CSGWPPs follows. The material described below is not meant to take the place of any specific program guidance or regulation, and, where seeming discrepancies might exist, the information in the most current program-specific guidance or regulation must prevail. EPA is in an on-going process to align and update all of its programs related to ground water protection with the CSGWPP approach.

## **WELLHEAD PROTECTION PROGRAM**

### **Resource-Based Priority Setting in Decision-Making**

An EPA-approved State Wellhead Protection (WHP) Program will be a required and integral part of the CSGWPP. Wellhead protection areas are, by definition, high priority areas currently supplying drinking water. Thus, priority setting within the CSGWPP will emphasize that wellhead protection areas be afforded extra management focus across all programs within the CSGWPP framework.

In addition to being an integral part of the priority-setting portion of the CSGWPP, wellhead protection programs will benefit by other activities that make up a CSGWPP. For example, characterization and mapping will aid in delineating actual wellhead protection areas and recharge zones.

### **Coordination with Other Programs**

Many programs use the wellhead protection areas as an indicator of areas of priority concern. USDA's Conservation Reserve Program, for example, provides incentives to farmers not to conduct practices that may impact ground water in sensitive areas. Other programs use Wellhead Protection Areas as a tool in program management schemes, such as the Public Water Supply Supervision Program for vulnerability assessments and sanitary surveys. The CSGWPP will become the vehicle to further demonstrate the utility of State WHP Programs and ensure that WHP-related activities are carried out consistently across programs.

### **Coordinating Grants**

To date, grant funding under the Safe Drinking Water Act for State Wellhead Protection Programs has not been appropriated. However, State ground water assessment and characterization activities and other wellhead protection activities are supported by EPA with CWA §106 grants, and wellhead protection is referenced as a viable and valuable activity in the grant guidances of other EPA ground water-related programs (e.g., CWA §319 and RCRA). Within the CSGWPP framework, all of these grants would be coordinated so that the maximum number of wellhead protection areas are established.



## **PESTICIDES SMP PROGRAM**

### **Resource-Based Priority Setting in Decision-Making**

The Agency's Pesticides and Ground-Water Strategy released in October 1991 offers States the flexibility to continue the use of a pesticide that EPA would otherwise cancel due to ground water contamination concerns. States will gain this flexibility by developing and implementing State Management Plans (SMPs), which are designed to ensure that each State can sufficiently manage, control, and enforce pesticide use to protect valuable and vulnerable ground water resources.

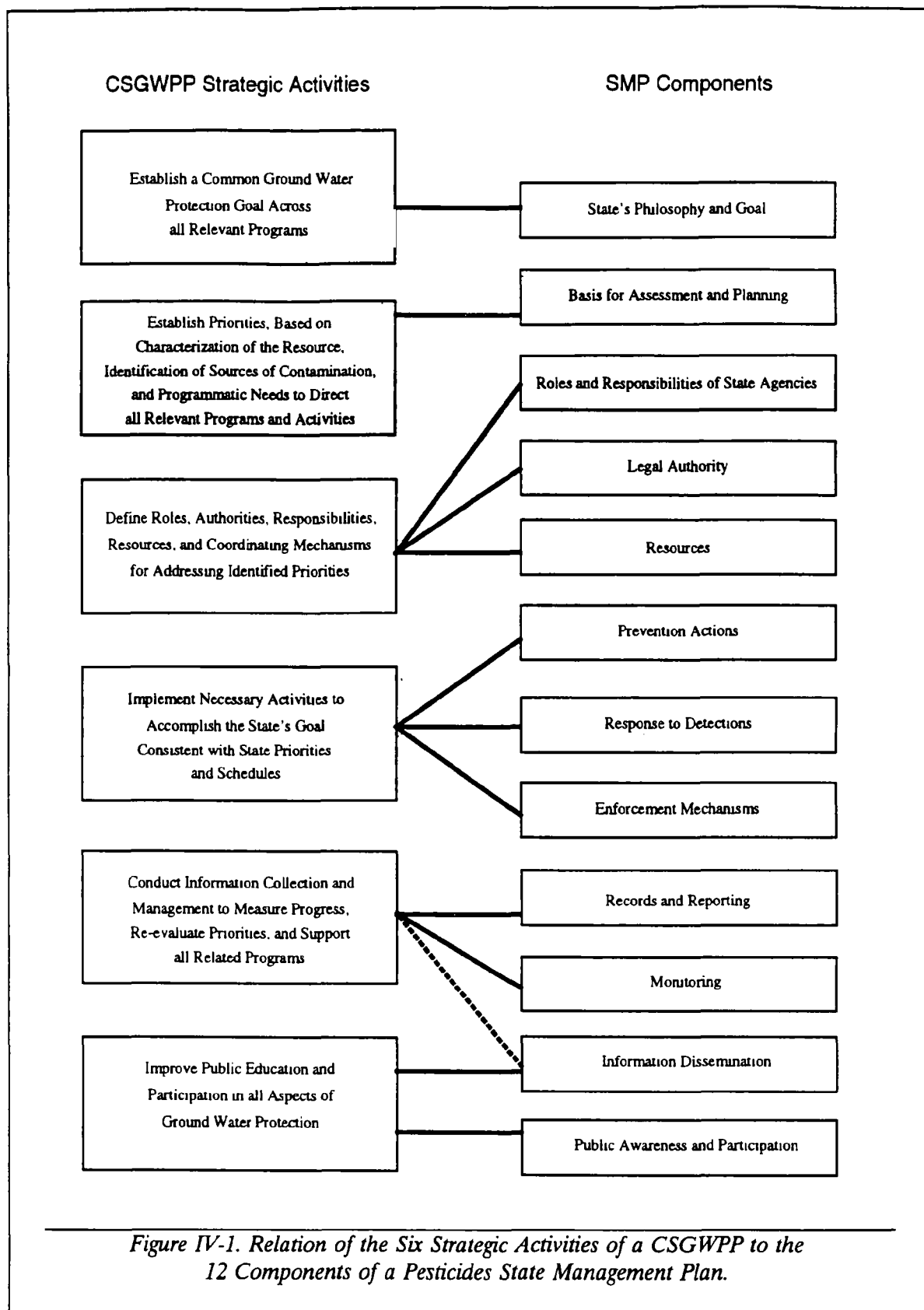
Figure IV-1 demonstrates that the specific components and adequacy criteria of a Pesticide SMP are closely aligned with those of a CSGWPP. An SMP should be considered a program-specific subset of a CSGWPP. Undertaking all six CSGWPP Strategic Activities will address most, if not all, requirements for a "Generic" SMP (i.e., the State's primary source document which provides the overarching SMP policies and approaches for which "Pesticide-Specific" SMPs will be derived, if necessary, to address unique concerns of individual pesticide uses). However, an SMP does have certain requirements specific to pesticides concerns that are more detailed than what is required under a CSGWPP. For example, under the "Prevention" SMP component, specific pesticides best management practices need to be listed and described. To meet SMP requirements efficiently, a State should extensively reference relevant portions of its CSGWPP, but the State will need to build on to the basic policies and approaches of the Comprehensive Program detailed descriptions of how it will meet the more specific Pesticide-Specific SMP requirements of an SMP. Similarly, in the development of its CSGWPP, a State should ensure that aspects relevant to pesticides management are consistent with the requirements of an SMP.

The Pesticide SMP approach fully adopts the CSGWPP concept of differential management based on the relative use, value, and vulnerability of ground waters. Pesticide-Specific SMPs will target certain pesticide management measures to specific geographic areas where ground waters are vulnerable to contamination and where such waters are either current or reasonably expected to be drinking water sources or closely hydrogeologically connected to surface waters. A State's CSGWPP will help ensure that the State's differential management approach under its SMP is better supported by coordinating and focusing the often extensive ground water assessment efforts being conducted within a State by a number of institutions (i.e., federal, State, and local agencies as well as research institutions and pesticide registrants).

### **Coordination with Other Programs**

Examples of how CSGWPPs will contribute to coordinating or promoting consistency between key activities of SMPs and other ground water-related programs include:

- Coordination and priority-setting under CSGWPPs will promote better integration of the regulatory and non-regulatory prevention measures called for by an SMP, such as those available under FIFRA and the CWA's Nonpoint Source Program, as well as needed monitoring information, available from a number of programs.



## **PESTICIDES SMP PROGRAM (CONTINUED)**

- CSGWPP efforts to define roles, responsibilities, and coordinating mechanisms will further clarify and build on foundations laid under SMPs to define roles, and promote coordination between agricultural agencies with primary pesticides management responsibilities and water, environmental, or health agencies with primary ground water resource responsibilities.
- Efforts under CSGWPPs to promote State legal authorities and to form coordinated enforcement strategies for ground water protection will also strengthen legal and enforcement capacity to protect ground water from pesticides.
- Coordination mechanisms developed under CSGWPPs should establish links at the State level to other federal agencies with ground water protection responsibilities. These links should facilitate the targeting of non-EPA federal water quality projects to address a State's SMP priorities.

### **Coordinating Grants**

CSGWPPs will help coordinate CWA, SDWA, CERCLA, and RCRA, as well as FIFRA funding for activities that will help meet the adequacy criteria of both CSGWPPs and SMPs. For example, money from §106 of the CWA could support State efforts to assess and identify the areas most vulnerable to ground water contamination by pesticides as a basis for establishing priorities for protection. FIFRA funding would be available for tailoring pesticides management practices to certain critical areas and for outreach to the agricultural community. State agriculture agencies would work with State water quality agencies to utilize their expertise and facilities for monitoring, assessments of aquifer sensitivity, data management, and other activities necessary for SMP development. Under the CSGWPP approach, SDWA funding of PWSS monitoring, enforcement, and vulnerability assessments could also be coordinated to provide significant information to a State for developing and improving its SMP. RCRA and CERCLA enforcement funding to identify parties responsible for ground water contamination as a result of illegal disposal or leaks or spills would also assist in establishing and implementing an effective SMP. Finally, the coordination mechanisms developed under CSGWPPs also have the potential to facilitate the targeting of grants from other federal agencies, such as USDA, to support SMP activities or to get the State agencies involved in SMP implementation in the selection of federally-funded water quality projects.

## **SOLE SOURCE AQUIFER PROTECTION PROGRAM**

### **Resource-Based Priority Setting in Decision-Making**

The Sole Source Aquifer (SSA) Protection Program is a resource-oriented ground water contamination prevention program. It is one of many tools that should be utilized in a CSGWPP to increase public awareness of the value of ground water as a resource and to prevent contamination from federal financially-assisted projects.

The SSA Protection Program's objectives and activities correspond to the Strategic Activities of a Comprehensive Program. Common management measures in both programs include resource assessment, identification of important resources for setting priorities, development of management options, and involvement of State and local governments.

The CSGWPP approach should provide the framework for increased State participation and improved EPA decision-making in determining priority SSA designations and project reviews. State and local prevention, control, and remediation efforts within SSA designated areas should be prioritized and managed through a CSGWPP.

### **Coordination with Other Programs**

Under coordination efforts of a CSGWPP, SSA protection activities should significantly support the development and implementation of other ground water-related programs in the following ways:

- Contributes valuable aquifer characterization and assessment information to assist States in setting priorities;
- Assists States in establishing priority ground water protection areas based on use and value of the resource;
- Implements a pollution prevention program for reducing or eliminating pollution in SSA areas;
- Uses a broad range of education, voluntary, and regulatory techniques to protect the resource; and
- Provides opportunities for monitoring, data collection and data analysis of the nature and quality of ground water.

## **RCRA SUBTITLE C PROGRAM**

### **Resource-Based Priority Setting in Decision Making**

The FY 1992 RCRA Implementation Plan indicates that the RCRA program is implementing a cooperative strategic framework with the States which is designed to: (1) identify regional and State-wide environmental priorities among all facilities in the RCRA universe, and (2) choose the most appropriate permitting and cleanup activities to address those priorities. One factor in setting these priorities will be the use, value, and vulnerability of the ground water. Since CSGWPPs encourage States to develop systems that allow resource-based priority setting, they should serve as an integral part of the efforts the States and RCRA are undertaking to implement this new strategy.

States also will need to characterize their ground water resources in order to implement the RCRA location standards rule. An adequate characterization carried out as part of the implementation of a CSGWPP will supply much of the information that States will need.

### **Coordination with Other Programs**

Subtitle C permits should be coordinated with UIC, NPDES, and Wetlands (§404) permits. When these and other ground water-related programs are all implemented within the CSGWPP framework, consistency in priorities and standards will result and the overall implementation will be more efficient and effective.

### **Coordinating Grants**

RCRA implementation grants should be used, in part, to support general assessment and infrastructure building, as long as the activities funded demonstrably aid in implementing RCRA. Because of RCRA's emphasis on State-led, priority-based decision making, activities such as assessment, mapping, and characterization fit into this definition. These activities are also key in other programs and are essential to developing and implementing a CSGWPP. As such, they will be supported by funds from a variety of programs. The CSGWPP supplies the coordinating framework which ensures that no unnecessary duplication of effort exists across programs, thus assuring that grants from RCRA and all other programs provide maximum overall benefit.

## **RCRA SUBTITLE D PROGRAM**

### **Resource-Based Priority Setting in Decision Making**

Under the Subtitle D program, States may apply for flexibility to adjust EPA-promulgated standards concerning landfill design, monitoring, siting and corrective action. In order to receive this flexibility, States must have EPA-approved Subtitle D municipal waste programs. Also, when a State makes a decision on landfill design, monitoring requirements, or corrective action requirements, it should do so based on the use, value, and vulnerability of the ground water. If ground water in a particular location is vulnerable to contamination, then the State has the option to be stricter than the federal requirements. Also, if the State contends that the "uppermost" aquifer is not ever intended for use as a drinking water source, the State also has the flexibility to relax its ground water standards. Before a State adjusts its standards, it should demonstrate whether the potentially affected ground waters are currently used or reasonably expected to be used as drinking water sources. Assessment and characterization carried out under the priority setting strategic activity of the CSGWPP will help a State meet this criterion. All States must demonstrate to the EPA Regional Administrator that their Municipal Waste Programs adequately incorporate Subtitle D federal guidelines.

Other Subtitle D programs for solid waste (e.g., mining, oil and gas, and industrial solid wastes) are just beginning to be developed at this time. EPA expects these Subtitle D industrial programs to incorporate the CSGWPP approach and allow States to make decisions on landfill design, monitoring requirements, or corrective action requirements based on the use, value, and vulnerability of the underlying ground water.

### **Coordination with Other Programs**

The RCRA Subtitle D program has already developed ground water monitoring requirements for municipal solid waste landfills. These requirements allow the use of a sampling and analysis program that accurately represents the ground water quality. A CSGWPP could ensure the development of a consistent monitoring program applicable to both Subtitle D facilities and to other programs such as the UST program that may affect ground water.

A number of industrial facilities and operations likely to be covered under future RCRA Subtitle D regulations for industrial solid waste also will require NPDES permits for surface water discharges or industrial pretreatment permits from POTWs and also may be subject to the SDWA Underground Injection Control Program, particularly Class V regulations. The CSGWPP will provide a framework for better coordination of these programs to avoid cross-purposes in objectives and approaches.

### **Coordinating Grants**

Grants given to States to develop an understanding of the characteristics of their ground water will be leveraged with grants from other programs so that duplication is avoided when a State implements certain functions such as monitoring. (See also the discussion under RCRA Subtitle C.)

## **UNDERGROUND STORAGE TANK PROGRAM**

### **Resource-Based Priority Setting in Decision-Making**

Under EPA's UST Program, minimum federal standards are set and a State is allowed to be more stringent or different if data demonstrate the State's program is equally protective of human health and the environment. This is true in almost all areas of UST management (e.g., notification, installation, reporting, closure, cleanup levels). Because the program's size often overwhelms the ability of the States to staff the program, EPA encourages States to implement UST programs and achieve compliance through a variety of State-specific management measures and mechanisms.

The UST program offers States flexibility:

- The UST program encourages States to set enforcement priorities and do multimedia enforcement.
- The federal UST program defines minimum standards and allows States to set more stringent or different standards for prevention and detection of releases from USTs, for site characterizations, soil and ground water cleanup investigations, and remedial action for releases from USTs.

Maximum flexibility is realized when a State receives UST program delegation. To obtain delegation, the State must demonstrate that it has additional funding sources, adequate staff, authorities that are no less stringent than the federal UST program in scope and regulation, and capacity and willingness to enforce the program.

The ground water assessment and characterization efforts carried out under the priority setting Strategic Activity of a CSGWPP will help a State better determine its UST program priorities in regard to inspection and enforcement actions and program resource allocations. Information provided by the CSGWPP approach on the relative use and value of ground water resources also will assist in UST program decision-making regarding cleanup investigations and corrective actions.

### **Coordination with Other Programs**

Because the UST program seeks to regulate sources of ground water contamination (i.e., underground storage tanks), there are several specific links between a State's UST program and its CSGWPP. For example, the UST program requires all UST owners to notify the State of existing underground storage tanks. This inventory will assist the States in cataloging and assessing one potential source of contamination.

A number of facilities and operations with underground storage tanks may also be subject to requirements by other ground water-related programs such as SDWA underground injection controls or RCRA hazardous waste or solid waste management. The CSGWPP will provide a

## **UNDERGROUND STORAGE TANK PROGRAM (CONTINUED)**

management focal point for a State to establish more coordinated inspections and enforcement schemes across ground water-related programs. Presently many States' UST programs do not have enough personnel to meet their enforcement needs. Through the integration provided by the CSGWPP, State personnel from other programs may be trained to look for UST violations or to take enforcement actions. As a simple example, through CSGWPP integration efforts, State personnel from other programs could be trained to identify UST violations and refer them to the appropriate office for follow-up compliance actions.

Facilities with underground storage tanks often are located in an area where ground water remediation efforts are being considered. Knowledge of the presence of underground storage tanks in such areas may be crucial information in determining the source and responsibility for an area's contamination and means for successful remediation. Under the UST program, owners are required to notify the State of existing underground storage tanks. Inclusion of such information in the CSGWPP strategic activity of coordinated ground water data bases within the State could greatly assist other programs' field personnel in determining appropriate actions.

### **Coordinating Grants**

The federal UST program provides grants to States to prevent, detect, and correct leaks from underground storage tanks containing petroleum and other hazardous substances. As a result, UST grant funding, which supports the development and implementation of an UST regulatory program also can support the following corresponding CSGWPP activities: identifying sources of contamination; establishing a comprehensive remediation program that sets priorities according to risk; defining federal, State, and local enforcement authorities; conducting monitoring, data collection, and data analysis; and improving public participation.



## **SUPERFUND PROGRAM**

### **Resource-Based Priority Setting in Decision Making**

The Superfund Program is designed to remediate hazardous waste contamination at uncontrolled hazardous waste sites. These cleanup efforts can occur through removal actions to mitigate an imminent and substantial endangerment. Long-term cleanup efforts also are conducted under the program and are based on a number of risk based criteria. Every potential site with hazardous materials must first go through a Preliminary Assessment and Site Investigation (PA/SI) process. Meeting a number of risk related and other factors in the PA/SI process will qualify a site for the National Priority List (NPL) for CERCLA remediation efforts. A CSGWPP may influence decisions in the following areas:

Priorities for conducting Preliminary Assessments and Site Investigations (PA/SIs), the first step in becoming eligible for long term efforts, are determined by the threat that potential contamination may pose. A State's ability to demonstrate, through a CSGWPP, that it understands the use, value, and vulnerability of its ground water could be an important factor in setting priorities for where PA/SIs should take place. By helping to establish where PA/SIs take place, the State can influence which of its sites ultimately get on the NPL.

Once on the NPL, the Superfund policy is to address the worst sites and worst problems at sites first, based on an assessment of risk to human health and the environment. Thus, a CSGWPP can assist in determining which studies and sites will receive Superfund attention.

A national goal for long-term cleanup of sites includes returning aquifers to beneficial uses in a reasonable period of time. When selecting a remedy and determining remediation requirements for long-term cleanup at a site, EPA must consider both the anticipated uses of ground water and established State standards. A clear understanding of ground water resources in the State, demonstrated through consistent application of a CSGWPP, can help inform these site specific decisions.

### **Coordination with Other Programs**

Superfund actions are required to comply with applicable or relevant and appropriate State requirements (ARARs). This includes State standards that are legally established and consistently applied in similar situations. ARARs pertinent to ground water protection often come from standards set under various environmental statutes. Under the CSGWPP approach, these programs would be based on a common understanding of the resource resulting from a consistent priority setting process that considers relative use, value, and vulnerability of the resource.

## **SUPERFUND PROGRAM (CONTINUED)**

### **Coordinating Grants**

A State or Indian Tribe may enter into a Core Program Cooperative Agreement to build and enhance its capabilities to respond to uncontrolled hazardous waste sites and to promote more effective State participation in the Superfund program. The Core Program focuses on developing remediation capability. The Core Program Cooperative Agreement may enable EPA Regional Offices to fund appropriate ground water tasks that contribute to the recipients ability to implement Superfund and also are useful to comprehensive ground water management in a State. Examples might include development of ground water sampling protocols or design of risk assessment criteria and procedures, and other components of a framework for a CSGWPP.

## **OIL POLLUTION ACT**

### **Resource-Based Priority Setting in Decision Making**

The recently enacted Oil Pollution Act of 1990 (OPA) provides EPA (and the Coast Guard) with new authorities to address discharges of oil that pose substantial threats to public health or welfare, including threats to natural resources. The OPA, which is implemented, like CERCLA and Section 311 of the Clean Water Act, through the National Contingency Plan, empowers EPA to arrange for the removal of oil discharges or to mitigate or prevent the substantial threat of the discharge that threatens public health or welfare. The definition of natural resources that may be protected includes surface water, ground water, and drinking water supplies.

A comprehensive assessment of a State's ground water resource carried out as part of a CSGWPP will support speedy and effective actions under the OPA by better identifying the ground waters, and surface waters closely hydrogeologically connected to ground waters, that could be affected by a discharge of oil, and by identifying reasonably expected sources of drinking water that could be threatened. This will help to determine when removal actions are necessary.

Because removal actions under OPA are subject to the ARARs provisions of the National Contingency Plan, the benefits from CSGWPP identified with respect to the Superfund program derived from consistent and resource-oriented ARARs will also exist with respect to the OPA.

### **Coordination with Other Programs**

The ARARs pertinent to removal actions involving oil discharges threatening ground water will, under the CSGWPP approach, be based on an understanding of the ground water resource and its use, value, and vulnerability that is common to all programs in the State.

## **UNDERGROUND INJECTION CONTROL PROGRAM**

### **Resource-Based Priority Setting in Decision Making**

CSGWPP resource-based priority setting will help make permitting, inspection, and enforcement actions for all classes of underground injection wells more effective and efficient. The overall CSGWPP framework will supply the States with an important understanding of the use, value and vulnerability of their ground water resources that will be useful in UIC programs involving all classes of wells.

UIC Class I hazardous waste injection wells (deep wells), for example, are permitted under the SDWA and by rule under RCRA Subtitle C. Before operation such wells must be determined not to endanger human health or the environment. Comprehensive assessment of the ground water resource will expedite the identification of all potentially threatened ground waters and confining layers, and will help to ensure complete and accurate monitoring and identification of potential migration in the subsurface. The requirements currently being developed for UIC Class V wells (shallow drainage wells) also demonstrate how CSGWPPs will support resource-based decision making. Under the regulations and guidance being developed by the UIC program, the most environmentally harmful Class V wells (e.g., service station drains, industrial waste disposal wells, etc.) will be controlled by permits; other Class V wells will be controlled by guidance. Although the controls placed on these wells will be tied to the level of contamination being injected, the use and value of the underlying ground water resources could be a key consideration in the setting of priorities under this approach.

### **Coordination with Other Programs**

The UIC program, and particularly the Class V component, will benefit from being linked to other ground water programs within the CSGWPP. Other programs, such as the WHP program, will assist in identifying Class V wells that have not been inventoried. Under the WHP program, sources of contamination within WHP areas must be identified. Any Class V wells identified during the WHPP inventory can be added to the Class V inventory. Similarly, any Class V wells identified during RCRA Facility Assessments (RFAs) or CERCLA Preliminary Assessments and Site Investigations (PA/SIs) could be added to the Class V inventory.

Efficiencies involving the UIC program and other programs will also be created through the CSGWPP. The UST program, for example, will be able to benefit from joint inspections at gasoline stations that address both Class V wells and underground storage tanks. Pesticide State Management Plans can include UIC Class V measures to avoid ground water contamination caused by disposal of residues from mixing or washing in shallow drainage wells. UIC Class V inventories will be useful sources of information in RFAs and PA/SIs.

### **Coordinating Grants**

States can use UIC grants for activities such as mapping, inventorying, and data management. For these activities, grant guidances among all programs allowing funds to be used for these purposes could be coordinated to insure synergies and to reduce unnecessary duplication among programs.

## **PUBLIC WATER SUPPLY SUPERVISION PROGRAM**

### **Resource-Based Priority Setting in Decision-Making**

Protection of source waters for public water supplies (PWS) is a high priority for Comprehensive Programs. This is evident by the CSGWPP adequacy criteria requiring implementation of an EPA-approved State Wellhead Protection Program (WHP). A State's WHP, coupled with other CSGWPP efforts, will provide information on the "vulnerability" or susceptibility of source waters of individual PWS systems to contamination. Under the Public Water Supply System Program, States would benefit from CSGWPPs (including WHP) and have the flexibility within the Program to:

- (1) Work toward flexible federal monitoring requirements for individual water supply system with less burdensome State monitoring requirements;
- (2) Offer water suppliers opportunities for obtaining waivers from monitoring requirements for certain contaminants, if suppliers can demonstrate their systems are not likely vulnerable to contamination;
- (3) PWSS enforcement actions can support development and implementation of local wellhead protection programs. CSGWPPs can provide data and information upon which to initiate enforcement actions, (i.e., SDWA §1431 emergency orders);
- (4) A CSGWPP could allow more flexibility in the application of the "timely and appropriate" enforcement criteria for violations of the SDWA, particularly PWSs that are in significant noncompliance SNC, if a State can demonstrate that an enforcement action, based on data from a wellhead protection program or other ground water activities, can appropriately address and mitigate the violations;
- (5) States have flexibility for establishing their own monitoring plan. There is flexibility to set the phase in schedule (beginning in 1993) for monitoring under the new "standardized monitoring framework," implementing a nine year compliance cycle. Setting priorities for targeting when systems would be phased in could be based in part on the use, value, vulnerability and extent of data available. Making determination using these factors would be greatly enhanced by the coordination and data developed under a CSGWPP; and
- (6) Sanitary surveys would be greatly enhanced under CSGWPPs, where use of wellhead protection area delineations and contaminant source surveys, pesticide application information and a pesticide management plan, and other information could be used.

### **Coordination with Other Programs**

Given the high priority of protecting PWS under a CSGWPP, a State's PWSS Program will benefit significantly from the CSGWPP's objective of coordinating and targeting the numerous ground water protection efforts of federal, State, and local programs. Coupled with Wellhead Protection Programs, the source inventory and characterization efforts of numerous

## **PUBLIC WATER SUPPLY SUPERVISION PROGRAM (CONTINUED)**

source-specific programs (e.g., UIC, UST, Pesticides SMPs, NPS, etc.) should assist the PWSS Program in determining the "vulnerability" or susceptibility of water supply systems to different potential contaminants. Furthermore, these various programs should significantly assist the PWSS Program in achieving permanent solutions to contamination by focusing on preventing or mitigating source water contamination rather than often costly treatment by individual PWS systems.

In addition to receiving benefits from the CSGWPP approach, the PWSS Program has much to add. For example, the ability of the PWSS Program to take civil action to address contamination of underground sources of drinking water (Section 1431 of SDWA) should be integrated under the Comprehensive Program approach with other programs' regulatory and non-regulatory efforts to provide a broader array of tools to address ground water concerns.

Also, under a CSGWPP coordination objective, the monitoring data collected by PWS systems should be integrated with other programs' information (e.g., source inventory and characterization data) to derive better understanding of the environmental fate and movement of contaminants. Greater accessibility of environmental data across programs also would allow vulnerability assessments to be done by automated processes rather than solely by expensive field investigations, facilitating the issuance of monitoring waivers. In addition, some States would not be able to support a waiver program without a coordinated information program mechanism in place to increase confidence in waivers.

Finally, the PWSS laboratory certification programs should be better coordinated, under the CSGWPP approach, with other programs' monitoring efforts to help ensure more accurate information across all ground water-related programs.

## **NONPOINT SOURCE PROGRAM**

### **Resource-Based Priority Setting in Decision Making**

Authorized under §319 of the CWA, the Nonpoint Source (NPS) Program provides grant funds for implementing control activities and institution-building activities based on a State's NPS Assessment and Management Plan. The program focuses on both ground water and surface water, with a minimum of 10 percent of the grants going for ground water-related activities. On average, the States devote more than 10 percent, with 30 percent going towards ground water-related funding in FY 91.

A State must have an EPA-approved NPS Management Plan to be eligible to receive NPS grants. The NPS Management Program requires States to have a procedure for prioritizing the State's waters, to define authorities and roles, establish goals, and measure progress toward meeting those goals. Only priority ground water protection activities identified in an approved management plan are eligible for §319 grant funding, either by direct identification in the NPS Management Plan or by reference to the CSGWPP. Therefore, the ground water protection priorities established by a CSGWPP should have a direct link to the priorities of the State's NPS Program. This link should focus §319 NPS efforts on the most valuable and vulnerable ground waters. The §319 program can also provide funding to support State assessments to develop such information.

### **Coordination with Other Programs**

Because CSGWPPs require that States define roles and coordination points between and among ground water-related programs, the CSGWPP will provide a means by which the NPS program will have information about all of the other ground water-related programs. This should decrease unnecessary duplication and increase efficiency in the §319 program. For example, coordination afforded by CSGWPP should promote better integration of NPS prevention activities and prevention measures under EPA's Pesticide State Management Plan (SMP) approach for protecting ground water from pesticides contamination. Integration between the NPS Management Program's requirements and those of upcoming Underground Injection Control (UIC) Class V regulations and guidance, particularly for agricultural drainage wells, can also be facilitated by the CSGWPP approach. At a minimum, a CSGWPP should ensure that these major national programs are not working at cross-purposes within the State.

### **Coordinating Grants**

The bulk of §319 grants must be used for implementing NPS control activities for either surface water or ground water quality concerns. Considerable and wide-ranging ground water protection efforts have been undertaken through these NPS grants, including abandoned well plugging, agricultural drainage well siting and closure, installment of best management practices in the field, and improved septic tank maintenance. Many of these activities would meet the objectives of other EPA programs (e.g., Coastal Zone Management, UIC, UST, Pesticides, RCRA). CSGWPP coordination of the NPS efforts with the control efforts supported by other programs will provide a vehicle for establishing and focusing joint efforts on highest ground water priority concerns.

## **NONPOINT SOURCE PROGRAM (CONTINUED)**

EPA's §319 grant guidance does specify that a portion of the grant can be used for ground water assessment and prioritization activities. That portion of the grant should be specifically coordinated under a State's CSGWPP with similar efforts under a variety of other ground water-related programs to gain such critical information in a systematic and efficient manner.



## **NPDES AND INDUSTRIAL PRETREATMENT PROGRAM**

### **Resource-Based Priority Setting in Decision Making**

Under the Clean Water Act, EPA and the States regulate facilities that either discharge wastewaters directly to surface waters or discharge to municipal wastewater treatment systems. Direct discharges are covered under the National Pollutant Discharge Elimination System (NPDES), whereas industrial discharges to municipal treatment systems are covered by pretreatment requirements. The primary objective of these regulatory programs is to ensure the attainment of the "designated uses" (e.g., fishable, swimable) of receiving surface waters.

While a number of States have incorporated ground water discharges into their NPDES permits and pretreatment requirements, there is no national requirement to do so. States might consider surface water recharge to valuable ground waters as a designated use for surface water and issue specific NPDES permit requirements designed to assure attainment of that designated use and, thereby, indirectly protect inter-connected high priority ground waters. States could use the resource assessment, source evaluation and priority setting mechanism of CSGWPPs to identify high-priority ground waters that are subject to contamination from closely hydrologically connected surface waters.

### **Coordination with Other Programs**

CSGWPPs can provide a central coordination point for surface water regulators to coordinate with ground water officials from a wide variety of ground water-related programs. For example, a number of facilities with required NPDES or pretreatment permits for surface water protection are also likely to be subject to future RCRA D and SDWA Underground Injection Control Class V Well requirements. The CSGWPP can help a State make integrated environmental management decisions across both ground and surface waters. In other words, States can use their ground water protection authorities in conjunction with the NPDES permitting process to ensure that specific requirements in NPDES permits do not result in unintended contamination of sensitive ground water from practices such as the use of surface impoundments.

## **STORM WATER PROGRAM**

### **Resource-Based Priority Setting in Decision Making**

Storm water discharges to surface waters, either directly or through municipal sewer systems and other collection points, are regulated through National Pollutant Discharge Elimination System (NPDES) permits. Storm water management can affect ground water in a number of ways -- some storm water management practices may be designed to recharge ground water in urban areas as an important means for water supply storage; other storm water controls focus on pollution prevention controls which reduce risks to both surface and ground water; and in some industrial and agricultural situations, storm water collection devices or best management practices (BMPs) may transfer contaminants to underlying ground waters. In any of these cases, this water may eventually re-enter the surface water again as ground water discharges to streams and lakes.

Given the possible inter-connection between storm water management and ground water, it is important to consider potential ground water impacts, particularly where this underlying resource is highly valuable or closely hydrogeologically linked to surface water quality. To address the potential for ground water contamination, storm water BMPs should be developed to reflect States' CSGWPP resource protection objectives and priorities.

### **Coordination with Other Programs**

Coordination within the CSGWPP framework among the NPDES program, UIC Class V program, the NPS program, and the Wellhead Protection Program will help focus efforts to manage cross-media impacts and avoid having major national programs working at cross-purposes within the State.

## **SEWAGE SLUDGE PROGRAM**

### **Resource-Based Priority Setting in Decision Making**

Requirements to protect public health and the environment from the adverse effects of pollutants contained in sewage sludge are authorized by Section 405 of the Clean Water Act. The CWA Sewage Sludge Program has proposed regulations for the final use and disposal of sewage sludge. Requirements already exist under RCRA for sewage sludge that is determined to be hazardous. Sludge determined to be hazardous under RCRA must be managed in RCRA Subtitle C facilities. Sludge disposed in municipal solid waste landfills, which frequently receive sludge from POTWs, must be managed in facilities that satisfy the RCRA Subtitle D regulatory requirements. Both the Subtitle C and D requirements include location standards and ground water monitoring and remediation, if necessary.

Proposed rules on management of sludge under the CWA Sewage Sludge Program in sludge monofills are expected to set limits on concentrations of certain pollutants in sludge placed in monofills based on the classification of the underlying ground waters. Proposed rules on land application of sludge are expected to include both management practices and national pollutant limits, including pathogen requirements and limitations on the concentrations of certain metals. Sludge application rates also should minimize the amount of nitrogen that passes below the root zone to the ground water. Comprehensive ground water assessment carried out under a CSGWPP will assist the implementation of these requirements by ensuring accurate and timely information about the conditions and uses of the ground water resources.

### **Coordination with Other Programs**

The development of priorities through the CSGWPP process will help to coordinate the sewage sludge program with other programs in the State in several ways. Decisions about capacity and siting of RCRA Subtitle D facilities, for example, will affect how sludge is managed. Similarly, decisions concerning discharges into POTWs may affect whether sludge can be used in land application or must be managed in RCRA Subtitle C facilities.

## **COASTAL ZONE MANAGEMENT PROGRAM**

### **Resource-Based Priority Setting in Decision Making**

The Coastal Zone Management Act (CZMA) authorizes and supports State programs for protecting the Nation's coastal waters. Amendments to the CZMA in 1990 established a significant initiative to control non-point source pollution to coastal areas. States must provide for the following activities within their Coastal Nonpoint Programs: 1) implement management measures to protect the coastal zone; 2) identify land uses which may cause or contribute significantly to coastal waters degradation; 3) identify critical coastal areas adjacent to coastal waters which are impaired or threatened by NPS pollution; 4) implement additional management measures for land uses or critical coastal areas as necessary to achieve and maintain water quality standards; 5) provide technical assistance to local governments and the public; 6) provide opportunities for public information on coastal zone activities; 7) modify coastal zone boundaries as necessary to implement NOAA's recommendations; and 8) provide enforceable policies and mechanisms to implement the management measures which protect the coastal zone. EPA plays a critical role in this initiative by having the responsibility for developing guidelines for best management practices for controlling the various nonpoint sources in coastal areas. In addition, both EPA and the National Oceanic and Atmospheric Administration (NOAA) must approve State Coastal Nonpoint Programs.

CSGWPPs have a primary function of identifying ground waters of high use, value, and vulnerability, which would include those ground waters that are closely hydrogeologically linked to coastal waters and which are capable of carrying contaminants to sensitive coastal waters. The Comprehensive Program can assist State CZMA Programs by identifying where ground waters play a significant role in coastal waters protection.

### **Coordination with Other Programs**

Strong potential linkage exist between State CZMA Programs and CSGWPPs. For example, in many coastal areas, which include estuaries, ground water nutrient contribution (especially nitrogen) is contributing significantly to eutrophication problems of coastal waters. Sources of this ground water contamination can include septic tanks from coastal developments or fertilizer use in agricultural areas adjacent to coastal land.

The CSGWPP can also assist in coordinating a number of other EPA programs (e.g., RCRA, CERCLA, Pesticides) to reduce coastal water impacts from toxic chemicals by protecting, as a priority, ground water closely linked to coastal waters.

## **TOXIC SUBSTANCES CONTROL PROGRAM**

### **Resource-Based Priority Setting in Decision Making**

EPA is interested in applying its capabilities and authorities under the Toxic Substances Control Act to address local environmental needs and problems. CSGWPP priorities provide an immediate context in which EPA and States can test the geographically-specific applications of certain TSCA authorities. Presently, a number of TSCA authorities can support the Strategic Activities of a CSGWPP, including:

- EPA toxicity determinations, exposure determinations, and risk assessment capabilities under TSCA could support CSGWPP priority-setting. For example, various EPA capabilities, such as testing authorities, Graphic Exposure Modeling Systems, and others, could provide information to assist States in identifying risk-based geographic priorities for ground water protection and in establishing ground water protection priorities across contamination sources.
- EPA risk reduction decision-making capabilities could support the pollution prevention components of a CSGWPP. EPA could perform Substitute Analyses, Cost/Benefit Analyses, and Pollution Prevention Technical assessments to assist with States' efforts to reduce or eliminate potential environmental releases that may adversely affect ground water quality. These EPA capabilities could be directed towards differential management of ground water under a State's CSGWPP by focusing on activities which are located in geographic proximity to the State's most valuable and vulnerable ground waters. These capabilities could also be used to assist a State in implementing pollution prevention priorities across sources.
- EPA risk management capabilities could also be used to support CSGWPP contaminant control efforts. TSCA Section 6(a) provides EPA with the authority to regulate chemicals which present an unreasonable risk of injury to human health or the environment. EPA could use this authority to address chemicals of concern in targeted geographic areas which encompass a State's high priority ground waters. TSCA Section 6(a) offers a wide range of possible actions to prevent pollution from prohibiting the manufacture, sale, or use of a chemical to recordkeeping and labeling requirements which could be selectively applied in specific geographic areas to protect high priority ground waters. As an alternative to rulemaking under TSCA section 6(a), EPA can assist in promoting voluntary risk reduction under TSCA 6(b).

At this time, EPA's efforts to apply TSCA capabilities to local problems will take the form of pilot projects. States need to work with EPA Regional Offices to identify opportunities within the CSGWPP framework which would test the TSCA approach.

## **RADIATION PROGRAM**

### **Resource-Based Priority Setting in Decision Making**

EPA is responsible for development of federal guidance on radiation protection and promulgates standards and regulations for exposure to radionuclides. In particular, EPA provides support to States in radiation monitoring, research, training, and other forms of technical assistance; develops standards for cleanup, management, and disposal of uranium and thorium mill tailings and high-level, low-level, and transuranic radioactive wastes; and assists in the promulgation of standards for the control of radionuclides in drinking waters and in all types of wastes. EPA's standards cover activities of other federal agencies, including DOE and DoD, and activities regulated by NRC.

Resource assessment, source evaluation, and priority setting mechanisms developed through CSGWPPs should be used by States and other federal agencies to implement the ground water protection and remediation standards contained in EPA regulations involving radionuclides. For example, EPA regulations in 40 CFR Part 192 on uranium tailings management at active uranium processing facilities call for evaluation of the hydrogeology of the site, including determination of background ground water quality, rate and direction of migration of contaminated ground water, and extent of the contamination. The regulation calls for remedial action decisions to be made on a case-by-case basis, taking into account, among other things, present and future use of the aquifer and the degree to which human exposure is likely to occur. NRC implements requirements for active uranium processing sites that incorporate ground water protection standards that are comparable to requirements developed under RCRA Subtitle C. A comprehensive characterization and assessment of the resource will facilitate decision-making affecting ground water for such sites.

### **Coordination with Other Programs**

Regulatory authority over some possession and use of radionuclides, with some exceptions, such as commercial nuclear power reactors and high level radioactive waste disposal facilities, has been relinquished by agreement between the Nuclear Regulatory Commission and the States to over half the States (Agreement States). In such States, siting of facilities involving radionuclides and design and operational requirements established by facility licenses are controlled and directed by the States. In States where NRC retains primacy, regulatory limits for some types of licensed nuclear facilities (e.g., uranium mill tailings impoundments) set specific design and operational criteria for licensed facilities to protect ground water and maximum limits are established for ground water contamination. Facilities in Agreement and non-Agreement States are subject to standards issued by EPA under the Uranium Mill Tailings Radiation Control Act and the Atomic Energy Act and implemented by Agreement States or by NRC in non-Agreement States. Implementation of a CSGWPP will enable States to begin to coordinate implementation of such standards and requirements more completely and efficiently by ensuring that they address a consistent ground water goal and priorities and share a common assessment of the resource.

## **WETLANDS PROGRAM**

### **Resource-Based Priority Setting in Decision Making**

Because wetlands act as natural pollutant filters and as a source of aquifer recharge, they often are closely linked to the quality and quantity of ground water resources. Wetlands occurring along rivers and streams probably are the most important types of wetlands for ground water recharge. This recharge occurs most often in the wet portions of the year during overbank flooding. Ground water, in turn, may be discharged back to the wetlands and river bed during dry years. The Everglades are a good example of the linkage between a river and a wetlands system and its underlying ground water, the Biscayne aquifer. Florida is acquiring approximately 41,000 acres of partially drained wetlands in the Everglades and restoring them to regain their water quality and recharge benefits.

Several EPA programs are aimed at protecting and restoring wetlands. In some cases, ground water resources are considered when establishing wetland program priorities. For example, EPA is assisting States with the development of water quality standards for wetlands which include methods for classifying wetlands by function and value. Currently the State of Michigan is considering designating wetlands as Outstanding Natural Resource Waters if the wetlands are connected to a municipal ground water supply.

Knowledge of State ground water resource priorities would be useful to the wetlands program in administering its responsibilities under CWA §404. For example, under §404, EPA has regulatory responsibility for reviewing permits for the discharge of dredge or fill materials into waters of the United States, including wetlands. The presence of high-priority ground water resources could be a consideration in review of these permits. Also under §404, EPA participates in Advance Identification (ADID) studies to identify waters as possible disposal sites and to identify areas that are likely to be unsuitable for disposal. The results of these studies provide the public and regulated community with an indication of whether a §404 permit will likely be received. Recently, in Bucks County, Pennsylvania, ground water withdrawal and its impact on local water quality was identified as one of the key factors that prompted an ADID.

Ground water protection also can be enhanced by identification and protection of wetlands that recharge and protect ground water. For example, if such wetlands are identified as part of the CSGWPP, their characteristics will be known for wellhead protection programs.

## **WATERSHED PROTECTION APPROACH**

### **Resource-Based Priority Setting in Decision Making**

The Watershed Protection Approach is a resource-oriented framework supported by EPA for focusing and integrating current efforts and for exploring innovative methods to achieve maximum efficiency and effectiveness in water quality protection. The term watershed refers to a geographic area in which water, sediments, and dissolved materials drain to a common outlet -- a point on a larger stream, a lake, an underlying aquifer, an estuary, or an ocean. An aquifer or part of an aquifer, such as a wellhead protection area, can be a watershed. The Watershed Protection Approach is not a new "program," but an effort to target appropriate tools and resources from existing programs to the needs within a particular watershed. The Watershed Protection Approach is built on three main principles: risk-based geographic targeting, stakeholder involvement, and integrated solutions. Presently a number of state projects and programs using the Watershed Protection Approach have been implemented.

The ground water assessment and characterization efforts carried out under the priority setting Strategic Activity of a CSGWPP provide a framework for States to target aquifers or portions of aquifers for the Watershed Protection Approach. In addition, watershed efforts aimed at surface water protection can benefit from information developed under a CSGWPP on those ground waters that are closely hydrogeologically linked to the targeted surface waters. Such information will assist in determining the influence of ground waters on these watershed protection areas.

### **Coordination with Other Programs**

Both the Watershed Protection Approach and CSGWPP are intended to focus the efforts of several programs on protection of high-priority water bodies. CSGWPPs should be considered as an important tool in the Watershed Protection Approach. CSGWPPs will focus those programs with primary ground water protection responsibilities on protection of important watershed areas, whether they are aquifers, portions of aquifers, or surface water bodies that are closely hydrologically linked to ground waters.

The 1992 Agency Operating Guidance states that EPA will focus actual protection and restoration activities in specific watersheds, and several programs have recognized the importance of a watershed approach in their guidance documents. This emphasis will be compatible with and supportive of CSGWPP implementation efforts. For example, in the Region 3 Mill Creek Pequea Creek Watershed, nonpoint source resources have been made available to farmers to implement BMPs to reduce nutrient, bacteria, and pesticide contamination of surface waters and ground water.



### C. LINKAGE TO OTHER FEDERAL AGENCY PROGRAMS

Several federal Agencies other than EPA are involved in activities that directly or indirectly affect the quality of ground water in the States. A central premise of the CSGWPP approach is that these other agencies should also be included within a coordinated framework. This section describes some of the linkages between other federal programs and the CSGWPP approach.

The genesis of this section of the guidance lies with the States themselves. In EPA/State Roundtables, the States ardently recommended that EPA discuss the CSGWPP approach with other federal agencies. The States' interest focused on three broad points:

- Providing Technical Assistance: Many federal agencies manage programs which provide significant technical and financial assistance to State ground water protection activities. This assistance should be focused on supporting the development and implementation of CSGWPPs.
- Utilizing States' Ground Water Protection Priorities in Non-Regulatory Efforts: Non-regulatory efforts should be targeted such that geographic and programmatic priorities outlined in the CSGWPP are supported. Examples of these non-regulatory activities include demonstration projects, public education and outreach, implementation of BMPs, and other similar activities.
- Deferring to State Ground Water Protection Policies, Objectives, and Standards: While some ground water contamination concerns require a national perspective to balance national, State, and local interests (e.g., high-level radioactive waste disposal), federal agencies should, to the degree possible, align their ground water protection and remediation efforts with State priorities as outlined in CSGWPPs.

In order to engage the federal agencies in a discussion of these points, EPA held a Federal Agency Roundtable in the early Spring of 1992. Other than EPA, the following federal agencies were represented at this Roundtable discussion:

- Department of Agriculture
- Department of Defense
- Department of Energy
- Department of Interior
- Department of Commerce
- Department of Health and Human Services
- Department of Housing and Urban Development
- Department of Justice
- Department of Transportation
- Federal Emergency Management Agency
- Nuclear Regulatory Commission
- Tennessee Valley Authority
- Office of Management and Budget

The Roundtable resulted in some concrete suggestions for integrating the activities of these departments and agencies into the CSGWPP approach. Those suggestions are described in this subsection of the Guidance. Because the Roundtable was mainly an introductory forum in which to acquaint the federal agencies with the CSGWPP concept, the federal agencies have not yet committed to specific actions in conjunction with the CSGWPP approach. EPA will be working with each agency and department throughout the comment period and beyond to further define and finalize their support of and involvement in the CSGWPP approach. This will result in each agency or department developing specific program guidances, guidance memos, and/or similar materials outlining its support of the CSGWPP approach; where discrepancies between this Guidance document and those specific program guidances exist, the specific guidances will prevail.

The remainder of this section focuses on the specific suggestions made by the other federal agencies. Each of the overarching topics outlined above is addressed in the paragraphs that follow.

### **Providing Technical Assistance**

Federal agencies, other than EPA, provide a broad range of technical assistance activities that could help States develop and implement their CSGWPPs. The federal agencies have indicated a willingness to target these activities based on the geographic and programmatic priorities outlined in each State's CSGWPP. Examples of the types of activities contemplated include:

- The USDA's land grant university system, through cooperative extension services, can provide direct technical assistance to implement CSGWPP prevention activities in the field.
- Other federal agencies such as DoD and DOE provide significant funding to universities for research and development activities related to ground water, and to develop technical assistance materials; these funds could be targeted based on a State's priorities as outlined in a CSGWPP and could be coordinated with other grant- or contract-funded projects within the context of the CSGWPP framework.
- USGS ground water assessment and mapping activities funded by the agency's cooperative agreement program could be coordinated with other assessment and characterization activities within the framework of the CSGWPP.
- Ground water data collected by all federal agencies could be coordinated within the CSGWPP framework.
- The Bureau of Reclamation could target its technical assistance funding devoted to ground water based on CSGWPPs.
- All federal agencies could work together to develop a common GIS database which would support resource-based decision making.

In order to elaborate on these ideas, the federal agencies agreed to work together to develop a federal clearinghouse or manual on all potential ground water-related technical assistance opportunities. This manual would help federal agencies coordinate their activities and

would assist States in gaining access to available technical assistance as they develop and implement their CSGWPPs. The federal agencies also suggested that they be given some role in the review and concurrence of CSGWPPs and CSGWPP development plans.

### **Utilizing States' Ground Water Protection Priorities in Non-Regulatory Efforts**

A CSGWPP provides a framework that is intended to ensure that all ground water protection activities occurring under State, local, and federal laws within a State are based on a consistent understanding of the characteristics of a State's ground water, priority geographic areas, priority contaminants, and other similar parameters. Some examples of non-regulatory activities that other federal agencies have underway, or may consider, that could fit into the CSGWPP framework include the following:

- DoD and DOE remediation demonstration projects could be adjusted to reflect State ground water protection priorities.
- USDA's water quality demonstration projects could be targeted and implemented based on the priorities in a State's CSGWPP.
- The Public Health Service can target education material on contaminants or contaminating sources of concern as defined by a State's CSGWPP.
- Agencies such as the Soil Conservation Service and the Cooperative Extension Service provide direct assistance to farmers and others with BMP implementation in the field; these services could be targeted and tailored based on CSGWPP geographic and programmatic priorities.
- DOJ could target litigation support based on State CSGWPPs.

In order for these activities to take place, EPA and the States must open up lines of communication with other federal agencies. Other federal agencies must have an early understanding of State ground water priorities so that those priorities can impact agency planning and budgeting.

### **Deferring to State Ground Water Protection Policies, Objectives, and Standards**

This is the most difficult and challenging arena within which to link other federal agencies to the CSGWPP approach. Just as is the case with EPA programs, other federal agencies are concerned about deference-limiting factors such as specific statutory mandates and long-standing agency regulations. Nevertheless, there are broad areas that warrant additional study and which may ultimately allow for consistent and rational deference to States within the context of CSGWPPs. These include the following:

- Land management agencies such as DOI's Bureau of Reclamation and USDA's Forest Service could work more closely with the States to assure that policies on federal lands do not lead to contamination of aquifers designated by the States as highly valuable or vulnerable.

- Federal facilities that will be required to clean up hazardous waste sites could change their priorities for clean up and protection to make them consistent with CSGWPPs.
- Federal programs could participate in the development and implementation of CSGWPPs so that facility-specific ground water management plans become integral to overall CSGWPPs.

In general, federal facilities and land managers are concerned that States will apply priorities differentially based on land or facility ownership rather than based on the characteristics of the ground water. This could lead to significant discrepancies in ground water quality management policies from site to site. Federal agencies are very interested in participating with EPA and the States in the development and implementation of CSGWPPs in order to assure that this will not occur.

**APPENDIX A:           DEFINING VALUABLE GROUND WATER RESOURCE USES AND  
BENEFITS, INCLUDING REASONABLY EXPECTED SOURCES OF  
DRINKING WATER**

The priority-setting and program implementation components of a CSGWPP (i.e., Strategic Activities 2 and 4) both rely on a State's resource characterization efforts. EPA believes that some of the most important information derived from such efforts will be determinations of what ground waters in the State are reasonably expected sources of drinking water (or its equivalent)<sup>7</sup> or have other uses and benefits considered by the State to be of particular value. Such information will help States to set priorities for prevention and remediation. Furthermore, EPA plans to establish more tailored regulations under relevant programs such that the appropriate level of additional source controls are required in areas where the State has determined that the ground waters are reasonably expected sources of drinking water or have uses or benefits of particular value to the State. This State flexibility is woven into the CSGWPP guidance, and is outlined here for clarity. This flexibility is contingent upon the State meeting three CSGWPP adequacy criteria when the State defines for itself "reasonably expected sources of drinking water" (or its equivalent) or other valuable uses and benefits. These criteria are:

- (1) The State utilizes a public participation process with objectives either as defined in 40 CFR Part 25 or the State's equivalent and that includes a mechanism to consider updated circumstances. Public participation includes providing access to the decision-making process, seeking input from and conducting dialogue with the public, assimilating public viewpoints and preferences, and demonstrating that those viewpoints have been considered by decision-making officials. The objectives of a State's public participation process equivalent to 40 CFR Part 25 would:
  - Ensure that the public has the opportunity to understand official programs and proposed actions, and that the government fully considers the public's concerns;
  - Ensure that the government does not make a decision on defining reasonably expected sources of drinking water without consulting interested and affected segments of the public;
  - Ensure that government action is as responsive as possible to public concerns;
  - Encourage public involvement in implementing environmental laws;
  - Keep the public informed about significant issues and proposed project or program changes as they arise;
  - Foster a spirit of openness and mutual trust among EPA, States, sub-state agencies, and the public; and

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<sup>7</sup>Some States have used other terms for "reasonably expected source of drinking water" such as "potential potable water."

- Use all feasible means to create opportunities for public participation and to stimulate and support participation.
- (2) The State considers the following decision factors when evaluating the wide range of possibilities for the future use of ground water. A State will need to show EPA how each factor was considered before the State reached its final definition. The factors are:
- Remoteness.
  - Hydrogeologic characteristics, including water quality and quantity.
  - Cost of prevention or remediation.
  - Demographics, including future growth and population patterns.
  - Availability and cost of alternative water supplies.
  - Inter-jurisdictional considerations (Tribes, federal government, other States).
  - Land use planning.
  - Remediation technology.
  - Key environmental considerations (ground water/surface water interactions and maintenance of ecosystem integrity).
- (3) The State consistently applies its definition across all prevention and remediation decisions over which the State has control. For example, the State should use a consistent definition regardless of waste type in determining facility design, i.e., whether the waste is sewage sludge or municipal solid wastes. As another example, a State's definition that would require federal remediation programs to create an "island of clean" within a generally contaminated ground water basin would be considered an inconsistent application.

It is EPA's intent that State definitions of ground water uses and benefits will be incorporated into EPA programs whenever possible. However, it should be noted that deference to a State's definitions of ground water use may not be used for federally funded remediation efforts where such definitions would result in remediation requirements that are technically impracticable or inordinately costly to achieve. Nevertheless, in many cases, the Agency believes that incorporating State definitions will provide an important integration function across programs with ground water protection responsibilities. To implement this policy, EPA may reference the CSGWPP approach or generally refer to a State's definition or public process for establishing the definitions in developing regulations and program guidances.

**EPA's Definition of "Reasonably Expected Sources of Drinking Water"**. In the absence of a State definition for "reasonably expected sources of drinking water," EPA's definition of an "underground source of drinking water" will apply. This definition derives from the Safe Drinking Water Act, Part C - Protection of Underground Sources of Drinking Water, Section 1421, and is found in the regulation implementing the Underground Injection Control program under the Safe Drinking Water Act: 40 CFR 144.3. This part of the regulation defines an "underground source of drinking water" as one that "currently supplies a public water system" or "which contains a sufficient quantity of ground water to supply a public water system" and "contains fewer than 10,000 mg/l total dissolved solids."

**EPA Support to the States.** EPA realizes that a State may find it useful to have the benefit of EPA's views on how best to define reasonably expected sources of drinking water (or its equivalent) or other uses and benefits considered of particular value. To provide this guidance, EPA is developing a technical assistance document on resource assessment as an example to the States of how "reasonably expected sources of drinking water" could be defined. One of these examples will be an updated version of EPA's 1986 draft final Ground Water Classification Guidelines.

**OVERVIEW OF**  
**REASONABLY EXPECTED SOURCES OF DRINKING WATER**

Each State will have the flexibility to define reasonably expected sources of drinking water for itself provided that:

- (1) The definition is developed through a public process and includes a mechanism to consider updated circumstances.
- (2) The State considers a set of decision factors in defining the term. The decision factors that must be considered when determining which ground waters are reasonably expected sources of drinking water are:
  - Remoteness.
  - Hydrogeologic characteristics, including water quality and quantity.
  - Cost of prevention or remediation.
  - Demographics, including future growth and population patterns.
  - Availability and cost of alternative water supplies.
  - Interjurisdictional considerations (Tribes, federal government, other States).
  - Land use planning.
  - Remediation technology.
  - Key environmental considerations (ground water/surface water interactions and maintenance of ecosystem integrity).
- (3) The definition developed by the State is consistently applied to prevention and remediation actions for all ground waters of the State.

In the case of ground water that crosses State boundaries, the most protective State definition will apply for the purpose of EPA regulations.



## **APPENDIX B: GLOSSARY OF ACRONYMS**

<b>ADID:</b>	<b>Advanced Identification (under CWA §404)</b>
<b>ARAR:</b>	<b>Applicable or relevant and appropriate requirement</b>
<b>BIA:</b>	<b>Bureau of Indian Affairs</b>
<b>BMP:</b>	<b>Best management practice</b>
<b>CERCLA:</b>	<b>Comprehensive Environmental Response, Compensation and Liability Act</b>
<b>CSGWPP:</b>	<b>Comprehensive State Ground Water Protection Program</b>
<b>CWA:</b>	<b>Clean Water Act</b>
<b>CZM:</b>	<b>Coastal Zone Management</b>
<b>CZMA:</b>	<b>Coastal Zone Management Act</b>
<b>DoD:</b>	<b>Department of Defense</b>
<b>DOE:</b>	<b>Department of Energy</b>
<b>DOI:</b>	<b>Department of the Interior</b>
<b>EPA:</b>	<b>Environmental Protection Agency</b>
<b>FIFRA:</b>	<b>Federal Insecticide, Fungicide and Rodenticide Act</b>
<b>GIS:</b>	<b>Geographic Information System</b>
<b>IHS:</b>	<b>Indian Health Service</b>
<b>MCL:</b>	<b>Maximum Contaminant Level</b>
<b>NOAA:</b>	<b>National Oceanic and Atmospheric Administration</b>
<b>NPDES:</b>	<b>National Pollutant Discharge Elimination System</b>
<b>NPL:</b>	<b>Nation Priority List</b>
<b>NPS:</b>	<b>Nonpoint Source</b>
<b>NRC:</b>	<b>Nuclear Regulatory Commission</b>
<b>OPA:</b>	<b>Oil Pollution Act of 1990</b>

PA/SI:	Preliminary Assessment and Site Investigation
POTW:	Publicly owned treatment works
PWS:	Public water supply
PWSS:	Public water supply system
QA/QC:	Quality assurance/quality control
RAD:	Radiation
RCRA:	Resource Conservation and Recovery Act
RCRA C:	Resource Conservation and Recovery Act Subtitle C
RCRA D:	Resource Conservation and Recovery Act Subtitle D
RFA:	RCRA Facility Assessment
SCS:	Soil Conservation Service
SDWA:	Safe Drinking Water Act
SMP:	State Management Plan
SNC:	Significant noncompliance
SSA:	Sole Source Aquifer
TSCA:	Toxic Substances Control Act
UIC:	Underground Injection Control
UMTRCA:	Uranium Mill Tailings Radiation Control Act
USDA:	United States Department of Agriculture
USGS:	United States Geological Survey
UST:	Underground Storage Tank
WHP:	Wellhead Protection

#### NOTE TO THE READER:

This Draft Comprehensive State Ground Water Protection Program Guidance is a statement of Agency policy and principles. It does not establish or affect legal rights or obligations. This guidance document does not establish a binding norm and is not finally determinative of the issues addressed. Agency decisions in any particular case will be made by applying the law and regulations to the specific facts of the case.